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The Characteristics and Life Difficulties associated to Non-Suicidal Self-injury and Suicidality in a Community Sample.

A Master's Thesis

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By

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Abstract

Non-Suicidal Self-Injury (NSSI) is a complex and understudied topic within the New Zealand literature. Risk factors, and functions of NSSI and suicidality within the socio-cultural context of New Zealand is an important area of research, having both clinical and research implications, such as enhancing or fuelling further investigation into prevention and therapeutic strategies.

A revised version of the Survey of College and Mental Health and Well Being and the Depression, Anxiety, Stress Scale (21) were used to explore NSSI, mental health, physical health and other characteristics of participants. Surveys were anonymous and self-selected by New Zealand community members. There were 304 participants, primarily identifying as female and of European descent.

Young women were the highest risk demographic for engagement in NSSI. Psychological distress, any type of abuse, suicidality, and experiencing the suicide of a friend or acquaintance were significant predictors of participant's engagement in NSSI. Multiple types of abuse and experiencing the death of a family member or friend to suicide significantly predicted suicidality, suggesting merit for acquired capability theory. Emotional regulation remains the most endorsed function of NSSI. There is no type of abuse that correlates to a function of NSSI, which highlights the complexity and idiosyncrasy of NSSI for each individual. Clinicians should focus on the behaviours' functions specific for that individual to promote positive treatment outcomes.

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Chapter One:

Introduction

Each year an estimated 800,000 people around the globe die due to taking their own life (World Health Organisation [WHO], 2016). In fact, suicide is the third leading cause of death for youth (aged 15-19 years) in western countries (WHO, 2016). According to the Office of The Chief Coroner of New Zealand (2019) in 2019 alone, there were 685 deaths by suicide in New Zealand or around two individuals every day who took their own life. Compared to the WHO (2016) statistics of standardised suicide rate which sits at 10.5 per 100,000 population, New Zealand standardised, as of 2019 sits at 13.67 per 100,000 population (The Chief Coroner of New Zealand, 2019).

One of the most widely researched risk factors for suicide is engagement in self-harm (Geulayov et al., 2016). It has been estimated that over 60% of individuals who take their own life, were found to have engaged in previous self-harm prior to the fatal act (Whitlock et al., 2013). There is an understanding in the literature of the complexities and range of risk factors that may lead to suicide and self-harm or what is commonly referred to as non-suicidal self-injury. There are many different definitions of self-harm within the literature, with each having a slight variation in explanation and inclusion criteria (Brunner et al., 2013). However, for simplicity of reading and understanding of the terms, non-suicidal self-injury will mean deliberate self-injury with no intention of dying (Klonsky, 2007). The following definition used is suicidality which encapsulates a range of behaviours, including self-harm with suicidal intent, and suicidal ideation (serious consideration of suicide) (Meyer et al., 2010). Within the current research the term suicidality will refer to thoughts, plans or behaviours relating to the intent of suicide. Although there is an argument that the former definitions may be an over-simplification of the complexities of self-harming behaviours and intention (Kapur et al., 2013), for ease of readability the following information has been split

into literature that has reviewed self-harm broadly, suicidality, or non-suicidal self-injury throughout. For literature that has used a definition that is not non-suicidal self-injury, the term self-harm will be used instead. Furthermore, self-harm will be abbreviated to SH, and non-suicidal self-injury will be abbreviated to NSSI henceforth.

Risk factors for NSSI or suicidality include both individual, environmental and wider socio-cultural factors. For example, individual risk factors for NSSI have included gender, sexuality, ethnicity, (Ministry of Health, 2015) mental illness and personality characteristics (for example, Mars et al., 2014). Environmental risk factors for NSSI have included a history of abuse or neglect, and other accumulative life stressors or difficulties (Madge et al., 2011) and lower socioeconomic status (Mars et al., 2014). Broader cultural and social influences include the role of media (Dyson et al., 2016) and the effect of social contagion and normalisation of SH among online and other media platforms (for example, Adrendt et al., 2019; Dyson et al., 2016).

There are a range of functions and motivations for engagement in NSSI which occur from a combination of biological, social, psychological and environmental factors (Townsend, 2014). Commonly NSSI and Borderline Personality Disorder (BPD) have been significantly associated, with NSSI being included as one of the potential criteria for a BPD diagnosis (American Psychiatric Association, 2013). Despite this initial concentration of research within a specific populace, however, the most pervasive function of NSSI among a variety of individuals is that of a means of release or relief from psychological distress or, put simply to regulate one's emotional state, not a specific disorder (Klonsky, 2009; Nock & Prinstein, 2004; Taylor et al., 2018).

Suicidality experiences tend to be a feature of psychological distress, which are thus included in the criteria for mood disorders, such as Major Depressive Disorder (American Psychiatric Association, 2013). Suicidality and SH literature, however, has focussed more

specifically on the functions and motivations broadly, not specifically on whether it is a symptom of a mental illness (for example Taylor et al., 2018).

Some international literature supports a significant relationship between sexual and/or physical abuse during childhood and SH or suicidality later in life (for example, Perkins & Jones, 2004; Stein et al., 2010). Other publications, however, have found there to be a moderate relationship (Klonsky & Moyer, 2008). It may be that the age of individuals when the incident/s of sexual abuse occurred influences the risk of SH, with earlier experiences of abuse predicting a larger amount of SH episodes, with suicidal intent (Lopez-Castroman et al., 2013). Other environmental stressors and difficulties such as parental mental illness or history of suicidality among parents of adolescents have also increased the possibility of youth engagement in NSSI or suicidality. (Brent & Melhelm, 2008).

Adolescence represents a time of risk for engagement in NSSI has the average age of onset of both, around 12-13 years of age (Stallard et al., 2013) and suicidality/suicide around 15-19 years of age (WHO, 2016). The effect of peer influence may be of increasing importance with consideration of this stage of life. Peer relationships during adolescence are shown to be one of the most pivotal influences on a young person's well-being, as it can be a way of creating their identity (Wang et al., 2007). Therefore, friends can have a heavy influence on an individual's behaviours. For example, Stallard and colleagues (2013) found that difficulties forming peer relationships, arguments with parents and other adult figures, and social isolation are all linked to youth suicide (Sheftall et al., 2013). As King and Merchant (2008) also commented, poor family supports' and peer supports are a predictor for both suicidality and NSSI among youth.

From a social and environmental perspective, the concepts of peer influence and contagion are often referred to within the literature. Given the use of social media and other media platforms as a common form of communication amongst adolescents, the latter

theories have been investigated. There are few peer-reviewed studies on the effect of peer influence and social contagion for individuals engaging in NSSI, of those that have, however, there appear to be some links between the effects of peer influence and contagion on the engagement in NSSI (Curtis, 2016; Muehlenkamp et al., 2008). The premise of peer influence and social contagion posits that the processes such as normalisation play a large part in their potency of influencing decisions to engage in SH amongst adolescents.

A common model of suicidality risk includes the interpersonal theory of acquired capability to suicide (Joiner, 2005). This theory explains that the experiences of suicidal desire (which includes thwarted belongingness and perceived burdensomeness), alongside an acquired capability for suicide, increase the risk of an individual dying by suicide (Joiner, 2005; Pennings & Anestis, 2013). The acquired capability refers to both the ability to persist despite physical discomfort, alongside a suicidal desire can increase the inherent capacity of engaging in suicidality (Joiner, 2005). According to this model, when an individual is exposed to physical pain or exceptionally provocative life experiences, it can lead to either pain insensitivity or fearlessness of death. Experiences include those mentioned in the above paragraphs, such as childhood abuse, persistent mental illness and SH (Joiner et al., 2009). The desensitisation of painful experiences can ultimately increase one's capacity to engage in suicidal acts (Pennings & Anestis, 2013).

A common model used to explain the functions of NSSI is the four-factor model, outlined by Nock & Prinstein (2004). This model posits that there are four types of reinforcement, maintain NSSI behaviours. These are positively or negatively reinforced intrapersonal or automatic functions and positively or negatively reinforced interpersonal or social functions. Through either gaining a desired feeling, or interaction or escaping an unwanted feeling or interaction, NSSI is maintained.

Overview

This thesis will comprise of four subsequent chapters. The following chapter is a literature review of several main areas. These areas include detailed descriptions of the concepts of SH, non-suicidal self-injury (NSSI) and suicidality. It then covers the individual, social and environmental risk factors for both NSSI and suicidality from international and national contexts. This section covers the functions and motivations for engagement in NSSI and SH. It then outlines key theoretical concepts of an acquired capacity (see: Joiner, 2005), and the four-factor model of NSSI (see: Nock & Prinstein, 2004). The literature review chapter was concluded with a list of the overarching aims and goals of the current research.

The third chapter of this thesis comprise the method section. This section includes the ethical approval information, followed by a description of the survey instruments used to gather the data. A description of the participant's demographics is given, followed by the analyses used to measure the relationships between variables. A description is given how variables were coded.

The following, fourth chapter comprises the results section of this thesis. This section first explores the demographic risk factors of NSSI. It then explores the relationship between the concepts of depression, anxiety and stress on NSSI. Next, it explores the relationship between NSSI, abuse and other life difficulties, and suicidality, abuse and other life difficulties, and exploration of acquired capability. The functions and motivations for NSSI are then explored, with the results sections finishing with why individuals no longer engage in self-harming behaviours.

The fifth chapter of this thesis comprises of the discussion section. This section explores the relevant literature on each topic researched in the results section. First, the demographic information concerning NSSI is commented on, with similarities and discrepancies between the current study and others raised. Next, the link between depression,

anxiety, stress and NSSI are explored. The relationship between NSSI and suicidality is commented on, as well as the links between abuse, life difficulties and NSSI and suicidality. The theory of acquired capability (see: Joiner, 2005) is then explored. The functions and motivations of NSSI are then related to what current literature has found, alongside the four-factor model of NSSI (see: Nock & Prinstein, 2004). The limitations of the current research and theoretical and clinical implications are outlined, alongside future research recommendations, the current research has highlighted. The chapter finishes with the conclusions from the current research.

Chapter Two:

Literature Review

Section One: Definition and Prevalence Rates

The Definitions of SH

There are many terminologies and definitions used to describe self-harming behaviours (Gratz, 2001). The former is due to the observation that the phenomenon of SH is both multi-faceted (Brunner et al., 2013), and at times a contentious social issue (Kapur et al., 2013). The variety of terms and definitions has caused debate within the scientific and clinical communities (Gratz, 2001). The discrepancies between different definitions of SH present issues for both scholars and prevention strategists, as the prevalence rates, predictors and other relating factors of SH tend to differ between studies (Lloyd-Richardson et al., 2007). Despite these differences, however, the most used and similarly defined terminologies and definitions of SH are referred to as Deliberate Self-harm (DSH) and Non-suicidal Self-injury (NSSI).

The term DSH refers to culturally unacceptable, intentional behaviours that are self-destructive, resulting in direct or immediate injury to one's body tissues irrespective of suicidal or non-suicidal intent (Dash et al., 2017). DSH tends to be a broader term used than other terms, as it does not exclude intention to die and has included intentional self-poisoning and risk-taking behaviours (Moran et al., 2012).

Typically, NSSI is described as the direct and intentional self-destruction of one's body tissues, without suicidal intent and that of which is not culturally sanctioned (Lloyd-Richardson et al., 2007). The Diagnostics and Statistical Manual of Mental Disorders fifth edition (DSM-5) includes non-suicidal self-injury as a diagnostic category (American Psychiatric Association, 2013). Similarly, the DSM-5 term describes self-injury as the intentional SH to one's own body without the intent of suicide.

Within both definitions of SH outlined above, direct indicates that the behaviours are intended to be self-destructive. The former indicates that this is opposed to self-destructive behaviour that might result in indirect forms of SH, such as crashing a car while driving intoxicated.

But, the term NSSI has been subject to criticism like other definitions of SH (Kapur et al., 2013). There was the argument that distinguishing between NSSI and suicidal SH is too complex to be accurately assessed, particularly in surveys lacking detailed questioning. Furthermore, as SH motives can fluctuate between episodes or individuals may not have an accurate account for motivations for each episode of SH, this was said to impact on accurate measurement of NSSI (Brunner et al., 2013). Due to the plethora of research that emerged in previous years, the term NSSI has become a common term (Lloyd-Richardson et al., 2007). In fact, in the most recent version of the Diagnostic and Statistics Manual for Mental Disorders, fifth edition (DSM-5) NSSI has been included as a subcategory for diagnosis (American Psychiatric Association, 2013).

The Definition of Suicidality

In a broad definition, suicidality refers to an individual's ideation, behaviours, or attempts of practising suicide (Meyer et al., 2010). According to Nock (2010), suicidal ideation refers specifically to seriously thinking about taking one's life. Suicidal behaviours have been described as the direct and intentional behaviours that are self-destructive with the intent to end one's life (Andover & Gibb, 2010). Within the current study, suicidality refers to behaviour with suicidal intent, or serious consideration and thoughts of suicide.

The differentiation in definitions between Non-suicidal Self-injury and Suicidal Behaviour

A meta-review of NSSI and suicidality by Hamza et al. (2012) explained across the literature, there is commonly thought to be a continuum of behaviours which range from NSSI behaviours to suicide. Generally, the differentiation between NSSI and suicidal

behaviour is described as having three points of differentiation. These are differences in the intention of the behaviour, the lethality of the behaviour, and the repetition of the behaviour.

The distinction between NSSI and suicidality can be difficult to discern, as Walsh and Rosen (1988) explained, individuals who experience both or either NSSI and suicidality may engage in such behaviours with the intent of reducing or escaping unwanted emotional states. However, the distinction between NSSI and suicidal behaviours, is that NSSI generally functions to find temporary relief from an unpleasant state (Curtis, 2016; Hamza et al., 2012) or another desired outcome, other than death (Favazza, 1988). Whereas, suicidal behaviour functions to find permanent relief from an unpleasant or distressing state (Curtis, 2016; Hamza et al., 2012). It has been suggested that the function of NSSI is not stagnant, in that should NSSI not produce the desired effect, suicidality behaviours may follow (Walsh & Rosen, 1988).

The lethality generally differs between NSSI and suicidal behaviours. According to Andover and Gibb (2010), individuals who engaged in NSSI tended to use methods that had low lethality such as cutting or burning. Conversely, suicidal behaviours generally have higher lethality methods.

Last, suicidal behaviours and NSSI differ in the frequency they occur, with NSSI engaged in at higher rates than suicidal behaviours (Andover and Gibb, 2010).

However, despite the above differentiation between NSSI and suicidal behaviours, both behaviours co-occur in community and clinically based samples (Nock et al., 2006). For example, the co-occurrence rate between NSSI and suicide attempt at an emergency crisis service found that for an adolescent clinical sample was at 4.0% (Cloutier et al., 2009). Conversely, Nock and colleagues (2006) found that 70.0% of a clinical sample who had engaged in NSSI had also engaged in at least one suicide attempt. Another study by Muehlenkamp and Gutierrez (2007) found that the co-occurrence between NSSI and suicide

attempt in a community sample was 47.5%. Another study of community adolescent in Hong Kong yielded similar results with over 60% co-occurrence (Cheung et al., 2013). Andover and Gibb (2010) also reported a high rate of co-occurrence between suicide attempts and NSSI in an adult clinical sample.

A review by Andover et al. (2012) discussed that distinguishing the intent of SH, is at times ambiguous despite suicidal intent distinguishing NSSI and suicidal SH; there are some individuals who may report an ambivalence towards death when engaging in SH (thus the intent is neither suicidal nor non-suicidal).

Despite the above definition issues, given the level of detail the survey in this thesis had, and the breadth of literature that focuses on NSSI, the term NSSI will be used in the results and discussion. Furthermore, for the remainder of this thesis, the terms NSSI and SH are used to ease readership. NSSI will refer to studies that have indicated the same or similar definition to that of NSSI described above. The term SH is used when intent has not been identified, or another definition was used for the study in question.

Prevalence of SH

As described in the previous section, the definition of SH differs across studies. Therefore, the current prevalence rates have a broad range. Both the definition used and the method of data collection (such as anonymous studies versus non-anonymous studies or a single measure of SH versus multiple measures of SH) is also why prevalence rates can differ extensively between studies (Evans et al., 2005). Despite differing rates, however, there is consensus that SH is a more common phenomenon amongst younger age groups (Madge et al., 2008). For this reason, international and national research, have generally focussed on investigating SH amongst the adolescent populations.

The international prevalence rates of NSSI are varied, for example, in community samples some studies have reported an 8% prevalence rate (Moran et al., 2012) and others up

to 25.6% (Plener et al., 2009). Adolescent community samples appear to be higher than adult community samples (Klonsky et al., 2003; Swannell et al., 2014). For example, the six-month prevalence rate of NSSI in a sample of Austrian and Swedish adolescents found that between 7.6-14.6% had engaged in NSSI in the last 6 months (Plener et al., 2013). Another study with Adolescents across Italy, the Netherlands and the United States found an average prevalence rate of 24% (Giletta et al., 2012). Jacobson et al., (2008) reported that for a non-clinical sample of adolescents, 13-29% will have engaged in NSSI at some time in their lives. A systematic review and meta-analysis by Swannell and colleagues (2014) found estimates of 17.2%, which are lower than Plener et al. (2009) and Jacobson et al., (2008).

The prevalence rates of adult engagement in NSSI appear to vary similarly to adolescent samples. For example, Klonsky and colleagues (2003) found that 4% of military recruits aged 20 and older reported a history of engaging in SH. Another study with older adults in the United States found a similar lifetime prevalence of NSSI, which was reported at 5.9% (Klonsky, 2011). Although the one-year prevalence rate for adult engagement in NSSI was 0.9% (Klonsky, 2011). A study with a community sample of young adults aged 18-30 years found a high prevalence rate of 43.6% engagement in NSSI, with 36% reporting NSSI engagement within the year of the study (Hasking et al., 2008). Andover (2014) found a similarly high NSSI prevalence rate of 23% with a sample of adults, however; this was a lifetime prevalence rate. Swannell et al. (2014) found that in young adults' the prevalence was 13.4% and for older adults 5.5%, which appear to be more similar to the rates reported by Klonsky (2011).

Within clinical populations, the rate of NSSI is higher than community samples, with some adolescent clinical samples found to have up to 60% who are estimated to have engaged in at least one incident of NSSI (Kaess et al., 2013). Another study which investigated children and adolescents diagnosed with Bipolar disorder found that 34% of

children and 37% of adolescent reported a history of NSSI (Eposito-Smythers et al., 2010). One further study of individuals diagnosed with an eating disorder, had an NSSI prevalence rate of 58.6% (Claes et al., 2014). Of individual admitted to a psychiatric crisis unit, just under 40% had reported engagement in NSSI (Claes et al., 2010).

New Zealand prevalence of NSSI and SH varies just as the international prevalence rates do. According to the Ministry of Health (2015), hospitalisations for intentional SH were 176.7 per 100,000 people in the population, or 7267 individuals hospitalised. Garisch and Wilson (2015) surveyed 1162 adolescents from the community between two different time points. In the first survey, 48.7% of adolescents reported they had engaged in NSSI. In the second survey, 34.38% reported engaging in NSSI. Comparing the statistics found by Garisch and Wilson (2015) to international prevalence rates, they appear to have reported higher levels than international prevalence rates have reported. The study by Fitzgerald and Curtis's (2017) indicated that of 772 university participants, 38% reported having engaged in NSSI at one stage in their life. This survey was completed by individuals at the University of Waikato and, therefore, captured an older populace than other studies completed in New Zealand (for example, Garisch & Wilson, 2015). Nada-Raja et al. (2004) completed a study with 966 26-year old's in a longitudinal analysis. Nada-Raja et al. (2004) found that 13% had engaged in SH at some point in their life. A national survey on New Zealand, secondary school students, found that in 2012 around 24% of student reported having engaged in NSSI (Fleming et al., 2014). Conversely, in clinical samples of adolescents, those who were hospitalised due to symptoms of psychological illness, found over 60% had a rate of engaging in SH (Ross & Heath, 2002).

Prevalence of Suicidality

According to the Office of the Chief Coroner of New Zealand (2020), in 2020 alone, there were 654 deaths by suicide in New Zealand or around two individuals who die by

suicide every day. The suicide statistics recorded by the Ministry of Health (2015) reported that in the year 2012 there were 508 individuals who died due to taking their own life, which accounted for 1.7% of all deaths for that year. Compared to the World Health Organisation (WHO) (2016) statistics of standardised suicide rate, which sits at 10.5 per 100,000 population, New Zealand standardised, as of 2020 sits at 13.01 per 100,000 population (Office of the Chief Coroner of New Zealand, 2020). According to the Ministry of Health (2015), individuals aged 15-24 years had the highest rate of death by suicide, with a recorded 18 deaths per 100,000 in the year of 2012. The latter comparison appears to be considerably high than overall global statistics.

The prevalence of suicidal ideation and serious consideration of suicide has been found in some studies to be between 20-30% for adolescent participants in a community sample (Evans et al., 2005). Suicidal ideation is included in the inclusion criteria for depressive disorders, such as Major Depression (American Psychiatric Association, 2013). It would thus be justifiable to assume that clinical samples have high prevalence rates of suicidality. In fact, over 35% of adults admitted for a psychiatric crisis unit had tried to take their own life, at least once (Claes et al., 2010). In adolescent clinical samples, between 23.5-35% have been reported to have engaged in a suicide attempt (Asarnow et al., 2011; Jacobson et al., 2008). In community samples, the estimates of suicidal behaviours/attempts are lower, with an estimate of between 4-8% the age of adolescents who have engaged in behaviour considered suicidal (Muehlenkamp & Gutierrez, 2007). Evans et al. (2005), reported a higher rate of 9.7% of adolescents who had engaged in a suicidal act at some point in their lives, with 6% engaging in a suicidal act within 1-year. A study with over 2100 Spanish students found that over twelve months, the prevalence of suicidal ideation was 10% of suicidal plans was 5.7% and of suicidal acts was 0.6% (Miranda-Mendizabal et al., 2019). In another study with a student, Ivey-Stephenson et al. (2020) found that 18.8% of students indicated they had

seriously considered taking their own life. There were 15.7% of the sample participants who reported they had planned how they would end their lives. There were 8.9% who indicated they had attempted suicide within the past 12-months of taking the survey, with 2.5% receiving medical treatment for their injuries. A study by Grunbaum et al. (2001) found that within the United States, there are approximately 19% of adolescents between the ages of 15-19 years who experience suicidal ideation and just under 9% attempt to take their own lives. Another study by Piscopo (2017) reported that between 1.6-6.9% of the general population in the United States experiences suicidal thoughts, and between 1.2% on average will attempt suicide. Last, an estimated 35-50% of adolescents receiving care for depression have or are estimated to attempt to take their own lives (Fombonne et al., 2001).

Section Two: Demographic Characteristics

Age and risk of NSSI and Suicidality

The central finding within most research is that individuals between 12-16 years engaged in the highest rates of NSSI compared with all other age groups (Madge et al., 2008; Nock, 2010). Research has found that individuals generally begin engaging in NSSI in their adolescent years, and most of these individuals will stop as they reach adulthood, if not before (Moran et al., 2012).

The age of onset for suicidal behaviour has been found to generally occur during late adolescence (Darke et al., 2010), as well as suicidal ideation (Nock et al., 2008). Evidence that suggests that adolescents experience suicidal ideation more than any other age group (Nock et al., 2008). Individuals aged between 18-25 years of age have been found to have the highest rate of any age group of experiencing suicidal thoughts within an adult sample (6.9%) (Piscopo, 2017). The national average of attempts on one's own life between 2009-2014 was found to be 1.2% for young adults, again higher than all other age groups. Furthermore, according to the Ministry of Health (2015), the highest rate of suicide was recorded for

people aged between 15-24 years. The same age group had the highest rate of hospitalisations for SH than all other age groups.

There appears to be very little information globally that looks at suicidality and suicidal behaviour for children who are less than ten years of age (Simioni et al., 2017). Of the limited studies that have been completed with individuals younger than ten years, results have shown, 1.3% of children aged 5-10 years tried to SH, or kill themselves (Meltzer et al., 2001). Moreover, the same study also found that 8-10-year-olds had twice the rate of 5-7-year-olds in regards to SH or suicidal act (1.7% compared to 0.9%).

Ethnicity, NSSI and Suicidality

National statistics report that colonised, indigenous peoples have a greater rate of suicidality and NSSI than other ethnic groups (Ministry of Health, 2015). There is sparse literature on SH, specifically NSSI and Indigenous peoples within New Zealand (Fa'alili-Fidow et al., 2016). Despite this, according to the Ministry of Health (2015), Māori have higher rates of hospitalisation for SH than non-Māori. Furthermore, Māori had nearly two times the rates of suicide compared to non-Māori. Māori women were more than twice as likely to die by suicide compared with non-Māori individuals. According to trends via ethnic group, Māori had the highest standardised rate of death by suicide for any ethnic group, followed by European or other, Pacific and then Asian (Ministry of Health, 2015). SH hospitalisations had a similar trend, with Māori having the highest standardised rate of hospitalisations for SH. Hospital rates, however, only reflect a small proportion of individuals who engage in SH or experience suicidality (Baetens et al., 2011). A study conducted by Fitzgerald and Curtis (2017) found that university students who identified as New Zealand European or Māori were significantly more likely than other ethnic groups to report engagement in SH. Māori were no more likely than New Zealand European, which does not reflect the hospitalisation rate for SH injuries.

Research with Pacific peoples by Tiatia-Seath et al. (2017) found that hospital rates for SH among Pacific people were lower compared to European, Māori, and other ethnic groups. Of those hospitalisations, individuals identifying as Cook Island had the highest rates for SH across Pacific identities. Another report conducted by Fa'alili-Fidow et al. (2016) with secondary school students found that Pacific students had higher SH rates and were found to be three times more likely to have engaged in a suicidal act, than European students. Moreover, as Helu et al. (2009) found, Pacific peoples are significantly less likely than New Zealand Europeans to access health care, which is possibly reflected in their lower rates at emergency hospital departments for SH.

Sexuality, NSSI and Suicidality

Some individuals may experience more adverse life difficulties on account of their sexual orientation, which can contribute to experiences of suicidality and NSSI (Lucassen et al., 2011). In comparisons studies, for example, a New Zealand study by Lucassen et al. (2011) found that adolescents who identified as being attracted to the same sex, any sex, no sex, or unsure were found to have higher rates of SH and suicidality when compared to individuals who were attracted to the opposite sex only. Individuals who were questioning their sexuality or attracted to both sexes were significantly more likely to be seen by a health professional for emotional worries. This New Zealand research shows similar risk factors seen in international studies, where individuals who express a minority sexual orientation are at greater risk of experiencing suicidality and SH (See for examples: Dunlop et al., 2020; Madge et al., 2011). Conversely, another New Zealand study by Fraser et al. (2018) found individuals who reported they identified as bisexual or not exclusively gay or exclusively heterosexual had higher rates of NSSI than those who identified exclusively as heterosexual or gay. Fraser et al. (2018) also highlighted that intrapersonal processes mediated the link between sexual orientation and NSSI engagement.

One theory that attempts to explain the link between SH behaviours and sexual orientation is social acceptance theory (Van der Star & Bränström, 2015). The former authors described that having social acceptance, or conversely, experiencing discrimination based on sexual orientation, can directly impact health and well-being. Current literature suggests that the western world has become more accepting of homosexuality than historically (Hertlein et al., 2016). However, there is also literature suggesting that monosexism, or viewing sexuality as binary (heterosexual or gay/lesbian), renders other sexual orientations, such as bisexuality, invisible (Roberts, Horne & Hoyt, 2015). The latter represents a genuine issue for individuals identifying as bisexual or another and contributes to ongoing issues with mental health and well-being for such individuals (Herlein et al., 2016). It appears that some literature (e.g., Fraser et al., 2018) may be starting to reflect what Roberts et al., (2015) discussed regarding monosexism.

Sex, Gender, NSSI and Suicidality

Suicidality, NSSI and gender rates differ regarding the frequency and intent. For example, many studies found that females are more likely to engage in NSSI than males across adolescent or adult samples (for examples, Bresin & Schoenleber 2015; Evans et al., 2005, Fitzgerald & Curtis, 2017; Ivey-Stephenson et al., 2020; Madge et al., 2008; Sornberger et al., 2012; Whitlock et al., 2011). Conversely, there are few studies which have contradicted the above findings. A study using sequential-cohort design, with follow-ups of participants by Moller et al. (2012) found that males were more likely than females to report engagement in SH. Another finding by Klonsky et al. (2003) and Kaess et al. (2020) found no difference recorded between female and male engagement in NSSI.

Interestingly, one study with younger participants (10 years and younger), found that SH was least likely among 5-7-year-old girls, with the highest being amongst 8-10-year-old boys (2.1%) (Meltzer et al., 2001).

Rates of fatal suicidal acts, compared to NSSI, however, show that males are more likely to die by suicide than females (Ministry of Health, 2015). These rates may be due to the lethal method, males tend to choose to hurt themselves, compared to the methods more commonly used by females (Madge et al., 2008).

A study with transgender individuals on NSSI and suicidality rates by Aboussouan et al. (2019) found that transgender individuals have higher statistics of NSSI, suicidal ideation, and attempt compared to other individuals. These findings have been found across other studies (Veale et al., 2017).

Section Three: Individual Risk Factors for NSSI and suicidality

Engagement in SH is often linked to those who experience symptoms of depressive disorders (Andover & Gibb, 2010), anxiety disorders (American Psychiatric Association 2013), personality disorders (Gerson & Stanley, 2002), eating disorders (Claes et al., 2010) and abuse of alcohol or other substances including tobacco (Portzky et al., 2008). Although the nature and function of NSSI and suicidality have social and environmental components (American Psychiatric Association, 2013), the following individual factors are outlined as risk factors for NSSI.

Borderline Personality Disorder

A plethora of research indicates the relationship between individuals who engage in SH and their experience of psychological difficulties and distress (American Psychiatric Association, 2013). Borderline personality disorder (BPD), as defined by the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5), is characterised by an enduring and pervasive pattern of both unstable interpersonal relationships, unstable effect and sense of self, as well as marked impulsivity across various areas in one's life (American Psychiatric Association, 2013). BPD also includes criteria around intense fear of abandonment, recurrent SH and suicidal ideations, extreme emotional fluctuations, risk-taking behaviours, and

extreme feelings of emptiness. Part of the need for the focus of BPD and SH in the literature was the high rates of suicidal behaviours among individuals who experience BPD (American Psychiatric Association, 2013). Of particular interest in these studies was the phenomenon of NSSI. For example, one study estimated that 63% of individuals diagnosed with BPD engaged in SH, and 75.7% had attempted suicide (Soloff et al., 1994). As a result of the initial research, SH inventory scales were developed to cross-identify BPD (Sansone et al., 1998). Screening tools for BPD were developed based on the creation of self-reported SH inventories, with one such study indicating an 83.7% correct classification of BPD based on a SH inventory (Sansone et al., 1998). Selby et al., (2012), however, found that those who engaged in NSSI either with or without symptoms of BPD had similar levels of psychopathology and impairment in functioning, suggesting that BPD does not account for all instances of engagement in NSSI.

Depressive Disorders

Depressive disorders all have common features characterised by feelings of emptiness, unhappiness or moodiness accompanied by dramatic changes or impairments in cognitive or physical functioning (American Psychiatric Association, 2013). Major depressive disorder (MDD) and persistent depressive disorder (PDD) are stated to be experienced by more than 264 million people across the globe (WHO, 2020). One of the criteria for MDD is reoccurring thoughts of death or suicide (American Psychiatric Association, 2013). As such, suicidality is regularly experienced by individuals who have a depressive disorder (namely MDD) and is, therefore, seen as a common risk factor for suicidality (Miranda-Mendizabal et al., 2019). Furthermore, engaging in SH (whether suicidal intent is present or not) relates to individuals experiencing symptoms of depressive disorders (Andover & Gibb, 2010). The rate of SH and suicidality among inpatients experiencing severe mental illness is higher than both the general population, and individuals experiencing

depressive symptoms, but whom are not severely impaired in functioning (Hamer et al., 1991). Furthermore, Hamer et al. (1991) found of the 100 inpatients in their study who were engaging in SH, 48% also met the criteria for MDD. In adolescent populations, SH is independently and significantly associated with depressed mood (Martinez-Ferrer & Stattin, 2019).

Anxiety Disorders

Anxiety disorders are characterised by shared features of excessive anxiety and fear and related to behavioural disturbances out of proportion to imminent or imaged threat (American Psychiatric Association, 2013). Fear refers to an emotional response to a perceived or real imminent threat, in anticipation of a potential future threat/event. There are numerous anxiety disorders characterised in the DSM-5. Some of the symptoms one might have if experiencing an anxiety disorder may be a feeling of being consistently on edge or nervous and restless (American Psychiatric Association, 2013). An anxiety disorder may also be accompanied by physiological symptoms, such as alleviated heart rate, sweaty palms, and/or shaking. Anxiety disorders are associated with both suicidal attempts and non-suicidal self-injury in both clinical and non-clinical populations (for example, Chartrand et al., 2012; O'Connor et al., 2009; Klonsky et al., 2003). Similar results have been found in New Zealand studies of NSSI. For example, Garisch and Wilson (2015) found that engagement in NSSI was associated with higher levels of anxiety within an adolescent population.

Interestingly, one study found that individuals experiencing specific anxiety disorders were more likely to experience suicidality and multiple NSSI behaviours than those experiencing other anxiety disorders (Chartrand et al., 2012). For example, these authors found that individuals with social phobia or generalised anxiety disorder were more at risk of suicidality. The former results have also been found in a study by Pfeiffer et al. (2009), where suicide was more common for individuals with GAD and depression than those with

depression and other anxiety disorders. A study of medical records for individuals who engaged in a fatal SH act after leaving the hospital found that 79% experienced severe anxiety within the week of suicide (Busch, Fawcett, Jacobs, 2003).

Psychological Distress, Stress and PTSD

Stress can be described as a psychological and physical state that can result when an individual's internal or external resources are insufficient to cope with the demands of pressures in a given situation (Kofoworola & Alayode, 2012). The amount of stress an individual can endure differs, and a certain amount of stress can be optimised for better performance (Baqtayan, 2011). Stress is suggested to be an unavoidable factor in one's life (Kofoworola & Alayode, 2012). Excessive amounts of stress, lack of resources or, an inability to cope with the stress can have physical or emotional outcomes, including psychological distress (Ensel & Lin, 1991). Experiences of acute life stress such as bullying, physical abuse, serious illness of a friend or family member have been found to independently predict psychological distress for adolescents (O'Connor et al., 2009). Furthermore, chronic life stressors such as those mentioned above, have been found to predict suicidality and suicide across cohorts (Menon et al., 2018; Stewart et al., 2019). Psychological distress is also associated with engagement in SH behaviours in young and middle-aged adults (Moller et al., 2012). Garisch and Wilson (2015), found internal distress experiences alongside an inability to tolerate this distress was directly associated with adolescent NSSI. Another study by Hamza et al. (2012) found that for adolescent age groups, individuals who experienced more severe psychological distress were more likely to experience both NSSI and suicidality, rather than NSSI or suicidality alone.

Last, research by Dyer et al. (2009) and Weierich & Nock (2008) shows that SH and suicidality are related to post-traumatic stress disorder (PTSD). The American Psychiatric Association (2013) described in the DSM-5 that PTSD is characterised by several criteria.

First, exposure to real or threatened death or injury or violence, including direct, witnessed, learning of a traumatic event or repeated exposure to the details of a traumatic event. Next, PTSD often includes the presence of intrusions associated with the traumatic event, such as distressing memories, dreams, flashback or physiological responses to cues related to the event. Third, avoidance of stimuli associated with the traumatic event, either internal or external stimuli. Fourth, mood or other cognitive changes, worsening or beginning directly after the event, such as memory loss, or persistent negative thinking. Last, it is characterised by significant changes in behavioural responses, such as irritability, hypervigilance and sleep disturbances. Further information on this link between PTSD and NSSI is explored in the functions and motivations of NSSI paragraphs below.

Section Four: Environmental Risk Factors

As briefly covered in the previous section, there may be many stressors that can lead to psychological distress and engagement in NSSI or suicidality (O'Connor et al., 2009). There is a concentration of literature in the area involving environmental risk factors and engagement in NSSI or suicidality. These factors include the effects of abuse, either throughout life or during childhood (for example; Curtis 2016; Madge et al., 2011; Walsh et al., 2020). The following paragraphs provide an overview of the relationships between various types of abuse, neglect, and other adverse life difficulties and risk of NSSI or suicidality. It will also outline the theory of acquired capability for suicidality.

Abuse, NSSI and Suicidality

According to the Ministry of Health (2018), abuse constitutes physical, sexual, and emotional or psychological abuse. Physical abuse or assault can include but is not exclusively hitting, kicking, or using a weapon. Psychological or emotional abuse includes verbal abuse, threats, children witnessing domestic violence, or over-controlling behaviours. Sexual abuse includes forcing one into sexual activities or contact without that person's permission; sexual

abuse also includes sexual harassment. In some cases, adverse childhood experiences, including neglect, abuse, and loss, can increase an individual's risk of engaging in NSSI (Klonsky & Moyer, 2008). However, the literature has previously appeared to present mixed findings, on abuse and NSSI risk (Klonsky & Moyer, 2008). More recent studies have contested this (for example; Madge et al., 2011).

According to Gu et al. (2020), emotional abuse in childhood was significantly related to engagement in NSSI for Chinese adolescents. Other studies by Glassman et al. (2007) and Madge et al., (2011) found that emotional abuse in childhood was also significantly associated with adolescent engagement in NSSI for an adolescent sample. The frequency of NSSI also increased alongside the frequency and intensity of reported childhood emotional abuse in a clinical sample of children and adolescents (Madden et al., 2018). Lastly, emotional deprivation and lack of support were associated with adolescent engagement in NSSI (Adrian et al., 2011; Kelada et al., 2018).

A meta-analysis by Klonsky and Moyer (2008) that focused on the relationship between childhood sexual abuse and SH engagement found a relatively small association overall between these variables. Klonsky and Moyer (2008) explained that due to possible publishing bias, the relationship between childhood sexual abuse and NSSI engagement had been overestimated. They also explained that of the studies included in their meta-analysis that statistically controlled for psychological risk factors, found that childhood sexual abuse explained minimal unique variance in SH engagement. It was suggested that childhood sexual abuse and SH are, modestly related because of the correlation with the same psychological risk factors. They suggested that there may be a more extensive association between childhood sexual abuse and SH if the severity of the parameters of the abuse is considered. In more recent studies, this relationship is stronger than Klonsky and Moyer (2008) suggested. For example, Madge et al. (2011) found that adolescents between the ages

of 15-16, were more likely to engage in SH, than those who had not experienced this abuse. Another study by O'Connor et al. (2009) found similar results, in that sexual abuse was predictive of SH engagement. Lopez-Castromen et al. (2013) found that children who had experienced sexual abuse before they were nine years old were more likely to report multiple suicidal behaviours than children who were older when they experienced sexual abuse. Lopez-Castroman et al. (2013) also found that children's experiences of emotional abuse, before 13 years of age were more likely to experience suicidal ideation than those who experienced emotional abuse after the age of 13 years. A qualitative New Zealand study by Curtis (2016) of 22 young women found that one of the most salient risk factors for their engaging in NSSI was a history of sexual abuse. Many of the women in Curtis' study (19/22) expressed that the sexual abuse and subsequent lack of social supports following the abuse was a cause of their engagement in NSSI. Finally, a study with adult participants has shown that experiences of sexual abuse or trauma, in adulthood are shown to precede engagement in NSSI (Holliday et al., 2018).

Experiences of physical neglect or abuse as a child was also predictive of adolescent engagement in NSSI (Madge et al., 2011). Kaess et al. (2013) found similar results, in that physical abuse was associated with engagement in NSSI. However, they also found that this relationship had lower odds than sexual abuse, or childhood neglect. Kaess et al. (2013) found that adverse childhood experiences, beyond just physical and sexual abuse were higher risk factors for engagement in NSSI.

The literature on various types of abusive experiences and suicidality appears less debated among the literature. Meta-analyses on childhood abuse and neglect and suicidality have shown that emotional abuse and childhood neglect and other maltreatment were positively related to suicidal behaviours among the general population in a Chinese sample (Liu et al., 2017). Meta-analyses on childhood sexual abuse and suicide attempts also found

that the association remains significant across longitudinal and cross-sectional studies (Ng et al., 2018).

Adverse and/or other Traumatic Life Events, NSSI and Suicidality

There are various adverse events and difficulties individuals may face in the course of their lifetime (Kessler et al., 2017). Adverse life events may impact upon an individual differently, dependant on many aspects (Garisch & Wilson, 2015). The time in one's life the event occurs, the nature of the event, and the individual's resilience, tolerance, and coping strategies for effectively dealing with the event, alongside other internal or external life resources available to them during or following an event (Garisch & Wilson, 2015). In other words, the interaction between experiencing adverse life events and an individual's personal or external resources (including psychological characteristics) is often idiosyncratic and heterogeneous (Garisch & Wilson, 2015). There is also evidence on the link between experiencing traumatic events, post-traumatic stress disorder (PTSD) and experiences of SH, and suicidality (Dyer et al., 2009; Sacks et al., 2008; Weierich & Nock, 2008). However, as suggested above, not all individuals who experience a traumatic event will develop PTSD. For example, Kessler et al. (2017) found that over 70,000 people from 24 countries, 14% had experienced intimate partner or sexual violence, 13.1% reported exposure to war-related events, 22.9% experienced physical violence, 35.7% traumatic experiences related to love ones (such as serious illnesses), 34.1% traumatic death of someone they loved and 34.3% had experienced accident or injury considered traumatic. Of this, 70.4% of the overall sample had experienced an event considered traumatic at least once in their lifetime. Given that exposure to a traumatic event appears to be reasonably expected (Kessler et al., 2017), as Garisch & Wilson (2015) commented, there is a myriad of complexities surrounding an individual which may contribute to or influence an adverse outcome (for example NSSI) following a traumatic event.

Because of the plethora of differences, studying the effect of life difficulties on SH engagement is challenging. Although an association between experiences of life difficulties exists, there is no linear series of events or difficulties that could predict an individual engaging in NSSI or suicide (just as there are with all risk predictors) (Madge et al., 2011). Instead, various adverse life experiences can influence the risk of an individual experiencing NSSI or suicidality. Over 30,000 primarily 15-16-year-olds participated in research by Madge et al. (2011) that explored life events, SH, and psychological characteristics. This questionnaire analysed 10 of the 20 questions regarding potential adverse life events over 12 months. These categories were: experiences of difficulties with friends or peers, problems between parents, suicide or SH within the family, trouble with the police, worries about sexual orientation, problems with schoolwork, the experience of being bullied, serious illness of friend or family, the death of someone close, and experiences of physical or sexual abuse. Apart from experiencing the death of someone close all adverse life events listed above were independently associated with a history of SH. The adverse event of experiencing the suicide or SH of another person, distinguished adolescents who had a single SH episode from those who experienced multiple SH episodes. Adolescents reported multiple engagements of SH when they had experienced the suicide or SH of others close to them. Overall, suicide or the SH of others had the strongest association with a history of SH (a moderate association) than all other life events recorded in the current study. There is a similar finding by Muehlenkamp et al. (2008) where university students who knew someone engaging in NSSI or experiencing suicidal ideation were more likely to engage in the behaviours themselves, compared to those who did not know individuals engaging in NSSI or suicidal ideation.

Conversely, experiencing the death of someone close (death was not via suicide) had a very weak association compared to all other life events surveyed in the study by (Madge et al., 2011). This finding is contradictory to other research, for example, the death of a loved

one, in a study across several European studies was associated with engagement in SH (Portzky et al., 2008). The experience of severe physical abuse, high conflict with friends, parents, and the SH of others close were also a significant risk factors for SH engagement in other studies (Kaess et al., 2020; Portzky et al., 2008). Interestingly, Portzky et al. (2008) found that within their study, there were variations in the significance of several life events and their association to SH across countries, which highlights potential socio-cultural factors that may influence SH engagement. It is not just the experience of an adverse life event that predicts the risk of engagement in SH; it has been found that as an individual experiences more adverse life events, the likelihood of engagement in SH also increases (Kaess et al., 2020; Russell et al., 2019).

Literature has highlighted the significance of the relationship between suicidality and adverse life experiences (King & Merchant, 2008). In a systematic review, King and Merchant (2008) found a direct link between abuse and neglect and suicidality, after controlling for other adverse life experiences, and depression. Another systematic review by Hill et al. (2020) experiencing the suicide or suicide attempt or suicidal behaviour from someone close to you, increased an individual's odds of suicide attempt. The highest odds of suicide attempt were from direct exposure to the death of someone who had taken their own life. Difficulties communicating with others, and dysfunctional parenting has also been found to increase suicide risk among adolescent and young adult samples (Johnson et al., 2002). As a child, experiences of verbal abuse were found to increase the odds of later engagement in SH by over 60% (Mossige et al., 2014). Mossige et al. (2014) also noted that suicidal attempt and SH was more common for individuals experiencing multiple types of abuse (sexual, physical, emotional) whereas individuals experiencing one type of abuse, were more likely to report suicidal ideation only. Another study with a clinical sample of adolescents found that events associated with stress and interpersonal loss alone, predicted engagement in

subsequent suicidality (Stewart et al., 2019). The former highlights the importance of interpersonal relationships, particularly in adolescence and how this relates to subsequent engagement in maladaptive behaviours (Clayton, 2020). This link and common theories for the association are explored in the section below. However, the following paragraphs explain the theory of why accumulative adverse life experiences, including abuse, increase the odds of suicidality.

Acquired Capability for Suicide

One theory of the link between adverse life events and suicide is the Interpersonal Theory of acquired capability for suicide (Joiner, 2005). This theory explains that in the presence of a desire for suicide, an individual's risk of suicide is heightened if they also had endured or have the ability to endure and tolerate physical discomfort or pain. Suicidal desire is defined as having two components. First, a perceived burdensomeness towards friends, family, and/or society broadly. Second, the presence of low belonging or social alienation. However, suicidal desire is stated not to be enough to enact suicide; one must also have an acquired capability towards fatal SH. The theory of acquired capability may explain the link between multiple engagements in NSSI and later suicidal behaviours (Brown et al., 2000). According to this theory, when an individual is exposed to physical pain or life experiences that are provocative or fearsome, through the process of habituation, the capability to carry out a fatal suicidal act is increased (Joiner, 2005; Joiner et al., 2009).

The basis for acquired capability is said to stand on the principles outlined in opponent-process theory (OPT) (Joiner, 2005). OPT posits the reaction to an emotional provocation changes over time as repeated exposure persists, and as the ability to elicit the original response diminishes the opposing response strengthens (Solomon, 1980). In other words, repeated exposure to experiences habituates an individual to acquire a higher tolerance for pain and/or a sense of fearlessness towards death (Ribeiro & Joiner, 2009). The

acquired capability is considered a continual construct that accumulates throughout life when exposed to affective experiences. Acquired capability is also stated to be influenced by the nature of these events, with more painful experiences leading to a greater capacity for suicide. The theory of acquired capability may explain the findings in literature where individuals who have a history of NSSI, or suicide attempts are more likely to engage in a fatal act of suicide, possibly suggesting physical habituation (Brown et al., 2000). A direct study of acquired capability by Van Orden et al. (2008) found that individuals who engaged in more suicidal behaviours, also had higher levels of acquired capability. However, it is not limited to a history of suicidal attempts that predict acquired capability. Other events, including repeated exposure to other painful or distressing events included psychical abuse, NSSI, engagement in multiple forms of NSSI, are all suggestive of building habituation and tolerance, increasing acquired capability (Nock et al., 2006).

A study on suicidal desire tested whether low belongingness and perceived burdensomeness could predict how severe an individual experienced suicidal ideation (Joiner et al., 2009). The results found that both constructs mentioned above when coinciding predicted the severity of suicidal ideation an individual experienced. Joiner et al., (2009) also researched the three-way interaction between perceived burdensomeness, low belongingness and an acquired capability for suicide. The authors' results indicated that the three-way interaction between the above constructs predicted higher likelihood of future engagement in suicidal behaviours.

Attempted suicide is higher for individuals following the death of a loved one via suicide than those who experience a loved ones death to sudden natural causes (Pitman et al., 2015). The former finding shows further merit for the habituation of suicide and subsequent suicidality.

Section Five: Other Environmental Risk Factors

There is considerable research covering the phenomenon of peer influence on behaviour, particularly in adolescence (for recent examples: Clayton, 2020; Schwartz-Mette & Lawrence, 2019). The theory of social contagion explores wider peer and societal influence, and how this relates to NSSI and suicidality. Another theory explores specific peer influence which encapsulates a function of NSSI as well. Theories of peer influences and social contagion as risk factors and function of NSSI are explored below.

Theories of Peer Influence and Contagion

Interpersonal relationships in adolescence are a fundamental part of identity development (Jensen-Campbell & Malcolm, 2007). For many adolescents, when beginning to develop their identity, the desire to be like those around them and fit in is often considered paramount (Cohon & Prinstein, 2006). Whitlock et al. (2014) found that threats to the social connections in adolescent peer relationships can serve as a significant risk factor for suicide. A further study by Schwartz-Mette and Lawrence (2019) found that the frequency of engaging in NSSI behaviours could be predicted by the frequency that the individual's friend/s engaged in NSSI. Given the above importance outlined that peer relationships in adolescence have in determining potential risk factors for suicide or NSSI, peer relations appear to be an important area to focus attention.

One model of peer influence, from a behavioural perspective, can be explained as an individual receiving social rewards, by engaging in a behaviour (Dishion et al., 1996). The behaviour is then maintained through reinforcement, assuming the social reward is salient enough to the individual. Dishion et al. (1996) conducted a study with adolescent boys to investigate peer reinforcement for behaviour considered to be antisocial. The current study results found that receiving positive peer reinforcement for rule-breaking talk was predictive of higher levels of antisocial behaviour.

Another peer influence model is called the identity-signalling model (Heilbron & Prinstein, 2008). These authors explain that SH is maintained through an individual's internal self-appraisal, following SH behaviours. This model posits that adolescents engage in behaviour that improves their self-concept and presents them in a favourable way to their peers. Heilbron & Prinstein (2008) commented that adolescent engagement in a behaviour is strongly predicted by the degree to which they have or believe that their peers engage in such behaviour. There appears to be a modest amount of information available that investigates various peer influence theories on behaviour (for example; Allen & Antonishak, 2008; Dishion & Dodge, 2005).

Social contagion theory is explained as a type of social influence, whether through a wider peer influence or the larger media representations. These social influences can impact subsequent engagement in behaviours (such as NSSI) (Jarvi et al., 2013). In other words, social contagion refers to how particular trends, behaviours, or fashions can increase across particular environments. Of interest in the NSSI literature and social contagion is the influence on behaviour that belonging to certain groups other subcultures considered alternative might have on NSSI engagement (for example; Scott & Chur-Hansen, 2008; Young et al., 2014). In Scott and Chur-Hansen (2008) a small percentage of individuals within alternative groups (such as those identifying as 'emo') were found to engage in behaviours to feel part of a group, more than another group. A qualitative analysis conducted in New Zealand with 16 young women aged between 16-25 years found that NSSI had become somewhat normalised for these women, as a possible way to fit into a peer group (Curtis, 2017). Furthermore, a study of the potential for media contagion among those who suicide has shown that particularly vulnerable individuals who are exposed to suicidal reports or portrayals in the media are particularly susceptible to engaging in suicide (Gould et al., 2003). In another study, however, most adolescents who engaged in NSSI, explained that

there were other functions of the NSSI, such as communicating psychological distress or emotional regulation (Young et al., 2014). A review of the literature on social contagion found that of the empirical studies investigating the phenomena, there is a modest amount of evidence that social modelling can increase NSSI risk (Jarvi et al., 2013). Although, this evidence is argued to be often mediated by the presence of psychological illness.

Section Six: Motivations and Functions of NSSI

As stated above, the motivation and functions of NSSI vary from suicidal behaviour in that the intent differs regarding the motivation (Jacobson & Gould, 2007). Many theories within the literature have been applied to explain the function of NSSI (Turner et al., 2012). Most theories have highlighted the interpersonal and intrapersonal functions of NSSI (Turner et al., 2012), and thus may relate to the environmental experiences and individual traits and idiosyncrasies (Garisch & Wilson, 2015). Interpersonal functions refer to changes in an individual's external environment, including social supports or withdrawal of social supports, social influences, and social communication (Turner et al., 2012). The intrapersonal refers to an individual's internal state, which includes thoughts, feelings, and sensations. Turner and colleagues (2012) noted that two of the most widely researched theories that encapsulate both intrapersonal and interpersonal functions of NSSI are the called the experiential avoidance model (Anderson & Crowther, 2012; Chapman et al., 2006) and the Four Factor Model (Nock, 2009; Nock & Prinstein 2004).

The experiential avoidance model proposes that NSSI is maintained through negative reinforcement such as avoiding or escaping unpleasant emotions (Chapman et al., 2006). Therefore, this theory posits that individuals who engage in NSSI attempt to regulate their internal states, which can be maintained through interpersonal and intrapersonal rewards. For example, interpersonal consequences of NSSI such as receiving additional supports can lessen the unwanted emotion felt before engagement in NSSI, which can maintain the

behaviour if the support is only given following NSSI. Alternatively, negative reinforcement, such as a reduction in demands from others, may also maintain NSSI behaviours.

The four-factor model is explained as having four core components (Nock, 2009). The first two are referred to as automatic positive reinforcement and automatic negative reinforcement. These processes refer to an individual's changes in internal state following engagement in NSSI (Nock & Prinstein, 2004). The next two components of the model are positive social reinforcement and negative social reinforcement (Nock, 2009). These two processes refer to NSSI being maintained through interpersonal reward/gain or escape from unwanted situations (Nock & Prinstein, 2004). Thus, the four-factor model takes a behavioural approach, and outlines that NSSI is maintained through either or both automatic and social positive and negative reinforcement.

The function of NSSI can also be analysed using several overarching categories, as outlined by Taylor et al. (2018). These categories include the intrapersonal functions of emotional regulation or self-punishment, and the interpersonal functions; communication of distress, punishing others or social influence from others. There have been similar categories explained through literature, for examples see Klonsky, (2007) and Nock, (2009).

Many individuals, particularly those who repetitively engage in NSSI, endorse multiple functions of their NSSI (Brown et al., 2002; Lloyd-Richardson et al., 2007). However, the most widely endorsed function of NSSI is emotional regulation (Chapman & Dixon-Gordon, 2007; Cresswell, 2005; Klonsky & Glenn, 2009; Laye-Gindhu & Schonert-Reichl, 2005; Nock & Prinstein, 2004; Nock et al., 2009; Rodham et al., 2004). Emotional regulation is defined as an individual ability to exert control over their own emotions across various situations (Garisch & Wilson, 2015). Emotional regulation is the process of modifying, expressing and experiencing our emotions in a flexible and socially appropriate manner (Gross, 2002). Engaging in NSSI to emotionally regulate, may be to either increase

desired, or decrease unwanted emotional states. Although, the most frequently reported emotional regulation strategy is to gain relief from unwanted or unpleasant emotions (Laye-Gindhu & Schonert-Reichl, 2005). Conversely, less frequently reported emotional regulation functions generate emotions when experiencing depersonalisation, emptiness or unwanted detachment from oneself or, surroundings (Low et al., 2000; Nock & Prinstein, 2004).

Moreover, as was found by Moran et al. (2012), the lower capacity in which many adolescents can regulate their emotions is a significant factor for why NSSI peaks during adolescence. In the western world, adolescence is seen to be the transition period between childhood and adulthood, and is often seen to be a time of instability in self-image, emotion and identity (Shaffer & Kipp, 2012). Moreover, as neurobiological studies have shown, brain development generally continues through to young adulthood, so it follows that adolescence is a more tumultuous time that can impact emotional regulation processes (Casey et al., 2010; Fairchild, 2011).

The frequency of other NSSI functions appears to vary across the literature. For example, a review by Klonsky (2007) showed that some studies indicate up to 50% of participants endorsed self-punishment functions of NSSI. In contrast, other studies reported less than a quarter of participants endorsed this function. Studies on the interpersonal functions of NSSI appear to be even less consistent (Klonsky, 2007). For example, Heilbron & Prinstein (2008) indicate that the function of NSSI is primarily interpersonal, such as engagement in NSSI to seek attention or help from others. A qualitative study by Curtis (2016) found that for many of the young women, interpersonal rewards were also frequently endorsed as a motivation for first engaging in NSSI. Although, in the same study, NSSI was also linked to the regulation of emotions and to provide a sense of empowerment and control over one's body (Curtis, 2016).

Although often explained as existing on a continuum between NSSI to suicide attempt, Curtis (2016) suggests that NSSI and suicidality may have more of a cyclic pattern between episodes, whereby an individual's motivation, and intent can shift between NSSI and SH with suicidal ideation or suicide attempt. Moreover, as mentioned in previous sections, after a time of engagement in NSSI individuals may become frustrated if the desired effect is harder to achieve, thus turning to suicidal behaviours, to seek a permanent, rather than a temporary solution to emotional or psychological suffering (Jacobson & Gould, 2007). Thus, the function of NSSI may shift and change over time, particularly for those who repetitively engage in it (Curtis, 2016).

As mentioned in the demographic section of this thesis, there are differences in the functions of NSSI between males and females. For example, Klonsky and Glenn (2009) reported that intrapersonal functions are more commonly endorsed by females, compared to males. Zetterqvist et al. (2013) documented similar results in an adolescent community sample. Laye-Gindhu & Schonert-Reichl (2005) and Fitzgerald and Curtis (2017) explained that males endorsed sensation seeking and interpersonal functions more often, compared to females. Additionally, males have reported that engaging in SH while others are present, or while intoxicated (Hawton et al., 2004) compared to females who more commonly reported self-punishment and influence from friendships (Prinstein et al., 2010) as functions for NSSI.

As highlighted by Turner et al. (2012), there is great importance in determining the function of an individual's NSSI behaviours, as it can directly influence how treatment is developed and implanted for that individual. As such, there are many ways of measuring or determining the function of a behaviour, including examining the social or emotional antecedents that precede NSSI, investigating the consequences of engagement in NSSI, or looking at self-reported motives for the behaviour (Klonsky, 2007).

Section Seven: Types of Abuse and Functions of NSSI

Some studies have sought to investigate what may mediate the relationship between adverse life experiences and engagement in NSSI (for example; Weierich & Nock, 2008). Primarily individual characteristics are sought to understand what may mediate this relationship (for example, Smith et al., 2015; Swannell et al., (2012). As Baiden et al. (2017), noted that depressive symptoms accounted for part of the relationship between NSSI and the adverse interpersonal experience of bullying. Baetens et al. (2015) also noted depressive symptoms partially mediated the relationship between NSSI and individuals who had experienced adverse parental experiences such as emotional deprivation. Weierich and Nock (2008) noted that individuals who had experienced PTSD were not only more likely to engage in NSSI but that the symptoms of PTSD mediated the relationship between the traumatic experience and NSSI. Other studies, not specific to sexual abuse, have shown that PTSD symptoms, mediate the relationship between traumatic experiences and subsequent NSSI engagement (Franzke et al., 2015). Weierich & Nock (2008) also found, the function of NSSI for individuals in their study was to mitigate the symptoms of PTSD, specifically dissociation.

Studies on other specific factors between specific abuse and NSSI include the intrapersonal contribution of emotional dysregulation (Titelius et al., 2018), self-criticism (Baetens et al., 2015; Glassman et al., 2007) intolerance of distress (Kang et al., 2018) and the interpersonal including poor skills in social problem solving and communication (Nock, 2009). Research on intrapersonal functions has found, there is evidence for specific mediators and other contributing factors in some specific types of abuse. For example, Brodsky et al. (2008) commented that personal attributions such as shame and blame are associated with individuals who experience sexual abuse. As Glassman et al. (2007) reported, self-criticism mediated the relationship between NSSI and abuse. Another notable finding in Glassman et

al. (2007) was also that self-criticism alone was not associated with NSSI, rather it only mediates the link between abuse and NSSI. The study by Kang et al., (2018) commented that the inability to tolerate distress mediated the relationship between experiences of emotional abuse and NSSI, although it did not mediate the relationship between physical abuse and NSSI. Titelius et al. (2018) commented that in childhood emotional and physical abuse cases, emotional dysregulation mediated the relationship between the abuse and subsequent NSSI engagement. As Nock (2009) commented, children and young adolescents who endured emotional abuse likely had limited opportunities to learn adaptive emotional coping strategies, due to factors such as communicative deprivation (i.e. from their parents or caregivers). As such, functions of NSSI including, emotional regulation, interpersonal communication and self-punishment have a link to emotional abuse. For victims of sexual or physical abuse, functions related to self-criticism (Glassman et al., 2007) and intense emotional reactions, or limited emotional reactions (potentially associated to PTSD) (Weierich & Nock, 2008) may be endorsed more than other functions.

Section Eight: Research Purpose, Importance and Aims

The nature, function, and risk factors for NSSI appear to remain understudied within the New Zealand population. Given the evidence for NSSI being the strongest predictor for subsequent suicidal behaviours, and suicide (Whitlock et al., 2013), it is important to study both the concepts of NSSI and suicidality as well as the risk factors they may have in common. Furthermore, as outlined by Portzky et al. (2008), there is likely to be significant differences in risk factors, concerning the difference in New Zealand's socio-cultural climate compared to international studies on NSSI and suicidality. The latter is particularly prudent for both researchers and clinicians as to which psychological and environmental variables put individuals more at risk of NSSI and suicidality. But also which variables co-occur between NSSI and suicidality in order to better ascertain what may put individuals at more risk of

suicide. As Hamza and Willoughby (2016) described, few studies have sought to ascertain the differences in risk factors between suicidal behaviours and NSSI.

This research is a replication and extension study, with extensions through the exploration of descriptive data. Subsequently, there are several main focus points. First, to replicate the study by Fitzgerald and Curtis (2017) to provide valuable insight into the demographic variables that may put individuals at higher risk of experiencing NSSI, as well as other NSSI characteristics (such as the method used). Second, to investigate the psychological variables of depression, anxiety, and distress and the subsequent relationship with NSSI. Third, to investigate adverse life experiences associated with NSSI and suicidality, to provide a cross-comparison of similarities and differences in risk of either, and to investigate the theory of acquired capability of suicide (see; Joiner, 2005). Last, to explore the functions and motivations of NSSI how they may relate to specific adverse life experiences.

The current study is unique because it provides information on an older populace of individuals, broadening the scope of research of NSSI and suicidality beyond adolescent and university samples (for example; Garisch & Wilson, 2015 and Fitzgerald & Curtis, 2017). It is also valuable because it attempts to disentangle the risk factors for both NSSI and suicidality within the same sample of participants. Last, as Tatnell et al., (2013) commented it is essential to understand what motivates individuals to first engage in NSSI, and the ongoing function in order to create intervention and prevention approaches. Thus, the current study seeks to better understand the phenomena of NSSI and suicidality in a New Zealand sample.

Research Aims and Hypotheses

The overall objectives of the current research are two-fold. First, we aim to replicate the study by Fitzgerald and Curtis (2017) on the demographic characteristics of NSSI in a New

Zealand population. The next broad objective was to explore and describe the association of abuse and other adverse life events to suicidality and NSSI; and how these events may relate to the function and motivation of NSSI. These aims are defined in more detail below.

- This research aims to understand further, the demographic characteristics that may put individuals at risk of engaging in NSSI. Based on the information from Fitzgerald and Curtis (2017), the current study hypothesises that individuals who identify as female, European, or Māori and are under 25 years of age will engage in higher rates of NSSI than others.
- The second aim is to investigate the association between depression, anxiety, distress, and NSSI engagement. The current research hypothesises that those who experience more severe depression, anxiety, or distress will report more frequent engagement in NSSI.
- The third aim is to ascertain which adverse life events, including abuse and other life difficulties, can predict engagement in NSSI and experiences of suicidality. The current study hypothesises sexual, emotional and/or physical abuse, exposure to the suicide of others, and a history of trauma will predict engagement in NSSI and experiences of suicidality.
- The fourth aim is to explore the theory of acquired capability for suicide (see; Joiner, 2005) by analysing the potential accumulative effect of life events as a predictor of suicidality, as well as the association between NSSI engagement and suicidality. The current research hypothesises that individuals who experience more types of abuse and other life difficulties considered to be provocative and fearful will increase their likelihood of suicidality.
- The final aim is to understand the interpersonal and intrapersonal functions and motivations for NSSI, and how this may relate to abuse. It is hypothesised that

individuals will report intrapersonal functions at higher rates than interpersonal functions.

Chapter Summary

The second chapter has reviewed the most recent and relevant literature related to SH, suicidality and risk factors for each. The first section contained information about the definition of SH that is used for the current research: Non-suicidal self-injury (NSSI). This section also gave information on the definition used in this research for suicidality and provided international and national prevalence rates for NSSI and suicide.

The second section of chapter two comprised literature on the demographic characteristics of individuals who are more at risk of experiencing suicidality and engaging in NSSI. The age of onset of NSSI in adolescence was discussed as one of the most salient risk factors for NSSI (Whitlock et al., 2013). NSSI was described as the most significant indicator of subsequent suicide.

Section three focussed on the links between experiences of psychological distress, mental illness and engagement in NSSI, or suicidality experiences. Included in the criteria for depression are thoughts of SH and suicide, and therefore as described, individuals experiencing suicidality have a higher rate of also experiencing depressive disorders (American Psychiatric Association, 2013). Anxiety disorders were also outlined as common, alongside BPD for engagement in NSSI.

The fourth section has focussed on the links between abusive experiences, other life difficulties or trauma events and experiencing NSSI and suicidality. This section described the inconsistency in the literature of the significance of sexual abuse and engagement in NSSI (see; Klonsky & Moyer, 2008). The theory of acquired capability of suicide (see; Joiner, 2005), and of relevance to the current study, the accumulative effects of difficult or traumatic life events were also covered.

The fifth section outlined social risk factors for NSSI and suicidality, particularly peer influence and the theory of social contagion. The theories of how peer influence may govern

engagement in NSSI was outlined through a behaviour perspective (Dishion et al., 1996), and through the identity-signalling model (Heilbron & Prinstein, 2008).

The sixth section described the most common functions and motivations for engagement in NSSI. This section outlines the broad categories the functions of NSSI can be categorised, between intrapersonal and interpersonal functions (Turner et al., 2012). The function of emotional regulation was explained as the most reported function in the literature (for example, Klonsky & Glenn, 2009). The four-factor model (Nock & Prinstein, 2004) and experiential avoidance model (Chapman et al., 2006) were explained as theories that attempt to explain the functions of NSSI.

The seventh section describes some of the mediating factors between the relationship of abuse and NSSI. These included mental health factors, such as PTSD (Weierich & Nock, 2008). The chapter is concluded with the aims and hypotheses of the current research in section eight.

The next chapter will outline the research methodology of this thesis. The method chapter will include information on data collection and analyses that were used to examine the relationships between demographic characteristics of participants, experiences of abuse, and other life difficulties in relation to participant engagement in NSSI and experiences of suicidality.

Chapter 3:

Method

Measures

The current study is a replication, and extension through exploration. The primary survey used in the current research was the Survey of College and Mental Health and Well-Being by Whitlock et al. (2006), adapted by Fitzgerald and Curtis (2017). The adapted version of this survey excluded 115 items. Omitted items included questions regarding access to therapy for issues unrelated to NSSI, questions regarding an individual's religiosity, family and parental demographic details, technology use, including computers, cell phones, video games and demographic details irrelevant to New Zealand (such as fraternity and sorority information). Of the 86 items remaining in the adapted version, items included areas surrounding the type of self-injury participants engage/d in, the function of their self-injury, the location of their self-injury, the severity and frequency as well as their experiences of treatment/therapy. The adapted version also included basic demographic information, past traumatic experiences, drinking behaviours, relationship dynamics, suicidality, eating behaviours, and personal reflections of self-injury (Appendix One). Embedded within the Survey of College Mental Health and Well-being is the Non-Suicidal Self-Injury Assessment Tool (NSSI-AT), developed in 2006 (Whitlock et al. 2006). The NSSI-AT was developed to assess the form, function and frequency of NSSI, and also secondary characteristics of NSSI; the age of onset, wound locations, severity, practice patterns, habituation and perceived life interference, NSSI treatment experiences and personal reflections and advice. The test-retest reliability of the NSSI-AT according to Whitlock et al. (2014) showed overall test-retest coefficients did not differ significantly from the test value of 0.70 except for of age at first self-injury ($ICC[1,1] = .91, P = .01$) and wound location ($ICC[1,1] = .63$). In the adapted

version, by Fitzgerald and Curtis (2017) the NSSI-AT tool remains unchanged from the survey used by Whitlock et al. (2006).

The current survey also included the Depression, Anxiety, Stress Scale 21 (DASS21) created by Lovibond and Lovibond (1995). The DASS21 is a self-administered questionnaire, available for free both online and in paper form. The DASS21 is a shortened version of the original Depression, Anxiety Stress Scale (Full version) 42 (DASS 42) developed by Lovibond and Lovibond in 1995 (see; Lovibond & Lovibond, 1995). The purpose of the DASS21 is to measure an individual's negative emotional symptoms, namely within the constructs of depression, anxiety and stress (Lovibond & Lovibond, 1995). The DASS21 features seven items relating to depression, seven items to the anxiety factor and seven items to stress. Each factor is separated, to differentiate between the negative emotional states of depression, anxiety and stress. The purpose of adding this measure to this survey was to provide a valid and reliable measure for the constructs of depression, anxiety and stress to ascertain the strength of the relationship to current or recent NSSI behaviours.

The DASS42 has excellent reliability and adequate discriminative and convergent validity across a large non-clinical sample ($N=1771$) (Crawford & Henry 2003). Each subcategory of the DASS-21 has been found to measure general psychological distress (Crawford & Henry, 2003). The DASS21 has overall good reliability and validity across ethnically diverse populations ("African-American [depression: $\alpha=.840$, anxiety: $\alpha=.810$, stress: $\alpha=.876$] Caucasian [depression $\alpha=.817$, anxiety: $\alpha=.770$, stress: $\alpha=.881$] Hispanic [depression: $\alpha=.832$, anxiety: $\alpha=.791$, stress $\alpha=.841$] and Asian [depression: $\alpha=.836$, anxiety: $\alpha=.743$, stress: $\alpha=.874$]", Norton, 2007, p. 257-258).

Participants

Participant Recruitment

An email was sent by Dr Curtis to each New Zealand University requesting permission to distribute the link through email to that specific University's Students. Permission was granted by the University of Waikato, Victoria University of Wellington, Massey University and Lincoln University. However, given the online nature of the research participants from various other Universities accessed the questionnaire link. The questionnaire link was also posted within the University of Waikato PsychCafe page and emailed to University of Waikato Students. Posters were placed around the University of Waikato Campus and through online platforms of Moodle and Facebook (Appendix B). University of Waikato students had the option in semester B 2019 and semester A 2020 to gain bonus course marks through their participation in the Survey.

Table 1

Demographic Characteristics of Participant Sample

Demographics	Number (N)	Percentage (%)
Gender		
Female	249	81.9
Male	51	16.8
Non-Binary	4	1.3
Ethnicity		
NZ-Māori	59	19.4
NZ-European (Pākehā)	215	70.7
Pacific Island	8	2.6
European	34	11.2
Asian	7	2.3
Indian	8	2.6
African	4	1.3
Another Specified or Non-specified	21	6.9
Sexual Orientation		
Heterosexual	254	83.5
Gay/Lesbian	13	4.3
Bisexual	33	10.9
Questioning	8	2.6
Queer	3	1.0
Asexual	3	1.0
Age		
18 and under	52	17.1

19-20	70	23.0
21-22	30	9.9
23-25	46	15.1
26-30	35	11.5
31-35	22	7.2
36-40	11	3.6
41-50	15	4.9
51 and over	23	7.6
Year of Study		
Bridging Course	5	1.6
UG1	131	43.1
UG2	40	13.2
UG3	32	10.5
PG1	15	4.9
PG2	10	3.3
PhD	2	0.7
Not Studying	69	22.7

Note. If participants marked themselves as having than one ethnic affiliation, they were included in both or all categories they indicated. If participants marked themselves as more than one sexual orientation, they were included in both or all categories they indicated.

This sample had a total of 396 participants who started the survey. Of this 396, 304 participants completed past the first question. A total of 269 participants completed the survey to the end (88.5%) and 35 participants who partially completed the survey (11.5%). There were 249 participants (81.9%) who identified as female, 51 (16.8%) who identified as male and four participants (1.3%) who identified as non-binary. The majority of the sample identified as being from New Zealand European (Pākehā) descent ($n=220$, 72.4%) and 59 participants identified as being from New Zealand Māori descent (19.4%). There were 48 participants (15.7%) who identified as having more than one ethnic affiliation. Eight participants who identified as Pacific Island (2.6%). There were 40 participants who identified as European descent (13.2%). The remainder of the sample identified as various ethnic groups including Asian ($n=8$, 2.6%), Indian ($n=8$, 2.6%), African or South African ($n=6$, 1.9%), Middle Eastern ($n=7$, 2.3%) and either another ethnicity or did not want to specify ($n=3$, 1.0%). The majority of the sample identified as heterosexual ($n=254$, 83.5%). There were 11 participants (3.6%) who identified as having more than one sexuality. There were 33 participants (10.9%) who identified as Bisexual, 13 participants as Gay or Lesbian (4.6%), eight participants identified as Questioning (2.6%), three identified as queer (1.0%)

and three identified as Asexual (1.0%). The participant's ages varied, with 52 participants indicating they were 18 years of age or under (17.1%), 146 participants were between 19-25 years of age (48.0%), 83 participants were between 26-50 years of age (27.3%), and 23 participants indicated they were 51 or older (7.6%).

There were 131 participants who indicated they were in their first year of undergraduate study (43.1% of the overall sample). There were 69 participants who indicated they were not studying, making up 22.7% of the overall sample. The remaining participants ($n=104$, 34.2%) were completing various stages of their University careers, including those undertaking university bridging courses, second- or third-year undergraduate study or various years of postgraduate study or PhD study. There 208 participants (68.4%) who indicated they were students from The University of Waikato and 27 participants (8.9%) who indicated they were studying at different Institutions or Universities around New Zealand, including Massey University, Otago University, The University of Auckland, The University of Canterbury and Victoria University of Wellington.

This survey was started by 396 participants and was finished by 304 participants, although not all 304 participants who finished the survey (i.e., got to the end) answered each question. There were 24 participants removed from the subsequent analysis as they had not completed the questions relating to NSSI; this left a total of 280 participants who completed the questions relating to NSSI (see; Table 3). Of this 280, a majority of participants ($n=232$) identified as female (82.9%) 45 as male (16.1%) and 3 as non-binary (1.1%). This sample's modal age group was participants aged 19-20 years (23.9%) (Table 3). The undergraduates' category was combined with the two participants who indicated they were undertaking University of Preparation programmes. The majority of students (45.7%) indicated they were in their first year of undergraduate study. There were 58 participants (20.7%) who indicated they were not undertaking any type of study. The remaining participants ranged between

second-year undergraduates to participants completing a PhD. Participants were able to select more than one ethnic affiliation. In this sample, 198 participants identified New Zealand Pākehā as an ethnic affiliation (70.7%) and 57 participants who identified with New Zealand Māori as ethnic affiliation (20.4%) the remaining participants identified with various ethnic affiliations including European and Pacific Island (see; Table 3).

There were 133 participants who were studying under the Faculty of Arts and Social Sciences (47.5%) there were 11 (3.9%) participants studying with the Faculty of Health, Sport and Human Performance, 13 (4.6%) were studying law, and 3.2% ($n=9$) studied management. The remaining participants were studying under Faculties including Māori and Indigenous Studies, Medical Studies, Computing and Mathematical Sciences, among others. Over a quarter of the participants ($n= 89$, 31.8%) were living with their family or a partner, and 65 (23.2%) were living with their parents or another family member. There were 61 (21.8%) participants who were living off-campus or flatting, 5% ($n=14$) boarding with family and 8.9% ($n=25$) living in campus halls of residence. The remainder of the sample were living on their own or owned their own house or were living in a university campus house. There were 107 participants who indicated they were single (38.2%) 155 who indicated they were in a committed relationship or married (55.3%) with all other indicating they were either separated or involved in uncommitted dating.

Study design and Questionnaire

Survey

The Fitzgerald and Curtis (2017) version of Whitlock et al. (2006) Survey of College Mental Health and Well-being and the DASS21 were entered into Qualtrics. Qualtrics is an online questionnaire tool which is designed to create surveys and distribute them through a hyperlink. The links can be created to be anonymous, which was the case in the current study. There were over 100 questions within the survey, including questions that were only

displayed to The University of Waikato Students wanting course credit. Due to the skip logic of questions regarding suicide and NSSI, not all participants were asked all questions. On average, the survey took participants 22 minutes to complete (SD=17.4 minutes). The survey was made live online in October 2019 and closed in May 2020.

Analysis and Coding

Analysis

The data were downloaded onto a secure device for analysis through excel and IBM SPSS software. Descriptive statistics were used to analyse participant demographics and relationships between NSSI and the constructs of Depression, Anxiety and Stress. Binominal Logistic Regression Analyses were run in IBM SPSS Statistics for Windows, Version 25.0 to analyse the demographic data and occurrence or non-occurrence of NSSI, to analyse abuse and life difficulties and occurrence or non-occurrence of NSSI and to analyse abuse and life difficulties and occurrence and non-occurrence of suicidal ideation or suicidal attempt. SPSS is a software package that is used to statistically analyse the data.

Coding

Non-Suicidal Self-injury. Non-suicidal self-injury was recorded as present (1) or absent (0) for each participant. If an individual had indicated they had engaged in any of the listed methods or had included in the ‘other’ category a method of self-injury which fit the definition NSSI, these were coded as ‘present’. For participants who indicated in each section, they had not engaged in any of the behaviours listed and reported no other methods, were coded as ‘absent’.

Suicidality. Suicidality was measured with one question. This question asked if the participant had ever seriously attempted or considered suicide at any time in their lifetime. If participants indicated ‘yes’ to this question, they were coded as ‘present’ (1) category. If participants indicated ‘no’, they were coded as ‘absent’ (0).

Abuse and Types of Abuse. For the logistic regressions, abuse was measured dichotomously. Physical abuse was measured with the question ‘Have you ever been deliberately hit or otherwise injured by someone you cared about and/or were involved with (including family members, in a romantic relationship, an acquaintance, or a friend)?’ Emotional abuse was measured with the question ‘Have you ever been in a relationship that was emotionally abusive?’ A ‘yes’ response to either of the above questions was coded as ‘present’, and ‘no’ was coded as ‘absent’ (0). Sexual abuse was measured with the multiple-choice question ‘Have you ever experienced unwanted sexual touching or intercourse or been forced to engage in unwanted sexual activity because...’ (options available to choose multiple). The response ‘I have never experienced unwanted sexual touching or intercourse or been forced to engage in unwanted sexual activity’) was coded as ‘absent’ sexual abuse, any other response was coded as ‘present’ for sexual abuse (Appendix A).

For the chi-squared test of independence, abuse was split into four categories. Participants who experienced no type of abuse (no sexual, emotional or physical abuse) were labelled with (0), those who experienced one type of abuse were labelled with (1), those who experienced two types of abuse were labelled with (2) and those who experienced all these types of abuse were labelled (3). The above categories were compared to whether they had ever engaged in NSSI.

Life Difficulties. Life difficulties were measured by a multiple-choice and text option question ‘Have you ever experienced any of the following life difficulties?’ this included ‘I

have never experienced any of the above'. Each category was coded into separate dichotomous variables, with (0) as absent and (1) as present.

Depression, Anxiety and Stress. Depression, anxiety and stress symptoms were measured in two ways. First, the DASS21 was used to rank participants into five categories for each construct (depression, anxiety, stress). These were coded as (1-5) with (1) being 'normal', (2) as 'mild', (3) as 'moderate' (4) as 'severe' and (5) as 'extremely severe'. Depression and anxiety symptoms were also measured using the following questions: Were there long periods of time when you were intentionally hurting yourself that you felt: Nervous; Hopeless; Restless or fidgety; So depressed that nothing could cheer you up; That everything was an effort; Worthless. Participant responses were coded as (0) for 'no' or 'I don't know' and (1) for 'yes'.

Motivations and Functions of NSSI. The functions and motivations for engagement of NSSI were measured by both multiple choice and text-based responses. Interpersonal motivations of peer influence were measured by responses 'I wanted to fit in', 'A friend suggested I try it', 'It seemed to work for friends'. Contagion was measured in responses 'I read about it on the internet', 'I saw it in a movie', 'It seemed to work for celebrities'. The remaining interpersonal motivations related to social communication and covered wanting to be noticed, wanting to shock or hurt others and being angry at others.

Intrapersonal motivations for first engaging in NSSI were 'I was upset and decided to try it', 'it felt good', and 'I was angry at myself'. Other motivations were 'I was drunk or high', and I accidentally discovered it; I had never heard of it before, 'Other' specified and "I cannot remember".

The functions of NSSI were categorised into seven groups. These groups are based on those discussed by Taylor et al. (2018) and have been grouped intuitively. For the current study, a sixth category of 'other' or 'ambiguous' was added as there were several responses

which could fit logically into more than one category, including the text-based response option. Categories and responses are depicted in Table 2 below.

Table 2

Categories of Functions for NSSI and Possible Responses under each Category.

Emotional Regulation-Escape	Emotional Regulation-Induce	Self-Punishment	Communicate Distress	Interpersonal Influence	Punish others	Other/Ambiguous
To cope with uncomfortable feelings	Because it feels good	A self-punishment or to atone for sins	In the hope that someone would notice/pay attention	Because my friends expect me to	To shock or punish someone	Because I like the way it looks
To relieve stress or pressure	To help me cry	Because of self-hatred		To be part of a group		As a way to practice suicide
To get control over myself	To get a rush or surge of energy			Because my friends hurt themselves		As an attempt to commit suicide
So I do not hurt myself in other ways	Because I get the urge and cannot stop it					To avoid committing suicide
To distract me from other problems						To feel closer to God
To change emotional pain into something physical						Other-Text Option
To deal with frustration						
To deal with anger						

Ethical Approval

Ethical approval for the current study was received from the University of Waikato Human Research Ethics Committee ((HREC(Health)2019#61)). This project is part of a larger project being carried out by Dr Cate Curtis, Senior Lecturer and Associate Dean

Academic for the Division of Arts, Law, Psychology and Social Sciences at the University of Waikato. The primary researcher received ethical approval for the current research, with this thesis coming under this approval.

Method Summary

Ethical approval was gained from the University of Waikato's Human research Ethic Committee. The measures used within the current research include Fitzgerald and Curtis' adapted version of the Survey of College and Mental Health and `Well Being, created by Whitlock et al. (2006). The other measure included in the current research was the Depression Anxiety Stress Scale 21 (DASS21) created by Lovibond and Lovibond (1995). The DASS21 is free to use online or in paper form. Participants were recruited through the University of Waikato Online Student Platforms, as well as an electronic flyer distributed through Facebook. Dr Curtis emailed the link to several New Zealand Universities who had provided their approval for the link to be sent to their students. Participants consisted of tertiary education students and wider community members aged between 18-55+ years of age. The majority of the sample identified as female and of European/Pākehā descent. Most participants were studying under the Arts and Social Sciences Faculty or were not studying at all. Over half the participants were in a committed relationship and over a quarter indicated they were single. Analyses of the variable were completed through IBM SPSS software statistics. Demographic data were analysed, and Chi-squared Tests of Independence and Binomial Logistic Regressions were run to provide more detailed analyses of the data.

The next chapter describes the results found from the above surveys and the subsequent analyses run to test this research's' hypotheses and aims.

Chapter Four:

Results

Introduction

This chapter will first describe the relationships found between specific demographic characteristics and NSSI behaviours. As primarily replication research, this was the primary objective of the current study. Next, this chapter investigates and describes the link between the constructs of depression, anxiety and stress and engagement in NSSI. The chapter will then describe the relationship between NSSI, and suicidality, alongside the relationship between abuse, NSSI and abuse and suicidality. The purpose of the former, was primarily to investigate further, the theory of acquired capability (Joiner, 2005). This chapter then investigates and describes the motivation and functions of NSSI in relation to experiences of types of abuse. The aim is to investigate the most common functions of NSSI, in the context of a New Zealand population and how functions may relate to specific types of abuse.

Participant Characteristics, NSSI and Suicidality

NSSI prevalence

There were 280 participants who completed the questions on NSSI, of these participants, 151 (53.9%) indicated they had not engaged in NSSI at any point in their lives, and 129 (46.1%) indicated they had. Of those who indicated NSSI, 51 participants specified they had engaged in NSSI (39.5%) in the last 12 months.

Primary Demographic Characteristics and NSSI

To determine the association between the primary demographic characteristics of gender, age, year of study, ethnic affiliation and sexuality and the likelihood of participant engagement in NSSI, a binomial logistic regression was performed. All assumptions were met prior to running the logistic regression. The logistic regression model was statistically significant $\chi^2(25) = 81.935, p < .000$. The model explained 33.9% (Nagelkerke R^2) of the

variance in NSSI and correctly classified 71.4% of cases. The crude odds ratios (OR) and confidence intervals (CI) were analysed for each of the aforementioned demographic variables (see; Table 3). These results showed that males were significantly less likely to report having engaged in NSSI, and thus had lower odds (OR=0.30, CI=0.13-0.70). There were 114 females who reported they had engaged in NSSI at some point in their lives (49.1%), compared with 13 males (28.8%). Unfortunately, there was not a large enough sample ($n=3$, 1.6%) of participants identifying as non-binary who had completed the survey to contribute to a meaningful output for this category. Participants who indicated they were between 31-35 years were 4.37 times more likely to report having engaged in NSSI in their life, compared with those 18 and under. There was no statistical significance in the other age groups. Participants affiliated with Pacific Island ethnicity were 14.58 times more likely to report engagement with SH than all other ethnic affiliations (OR= 14.58, CI = 1.45- 146.5). It is noted there was a small sample ($n=8$) for this group, which may contribute to the wide range in the associated confidence intervals. Participants who identified as bisexual were 7.6 times more likely to report engaging in NSSI than those who identify as heterosexual (OR = 7.68, CI = 2.44-24.20). Participants who identified as questioning and other were also more likely to report engagement in NSSI at some point in their lives, than those who identified as heterosexual (OR = 15.59, CI = 3.06-79.46). The latter results also have a large range in the confidence intervals, indicating small sample sizes. Refer to Table 3 below for further details.

Table 3*Logistic Regression of NSSI on Primary Demographic Characteristics*

	Total <i>n</i> =280		No-NSSI sample <i>n</i> =151		NSSI sample <i>n</i> =129			
Characteristics	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	OR	95%CI
Gender								
Female	232	82.9	118	78.1	114	88.4	1.0	
Male	45	16.1	32	21.1	13	10.1	0.30**	0.13-0.70
Non-Binary	3	1.1	1	0.7	2	1.6	0.54	0.03-10.77
Age								
18 and Under	51	18.2	32	21.2	19	14.7	1.0	
19-20	67	23.9	40	26.5	27	20.9	0.99	0.40-2.44
21-22	26	9.3	8	5.3	18	14.0	2.22	0.65-7.63
23-25	40	14.3	17	11.2	23	17.8	2.47	0.79-7.71
26-30	32	11.4	15	9.9	17	13.2	1.38	0.43-4.44
31-35	22	7.9	7	4.6	15	11.6	4.37*	1.27-15.06
36-40	11	3.9	8	5.3	3	2.3	0.46	0.09-2.40
41-50	12	4.3	7	4.6	5	3.9	1.05	0.23-4.88
51 and over	19	6.8	17	11.2	2	1.6	0.18	0.30-1.13
Year of Study^{ab}								
UG1	128	45.7	75	49.6	53	41.1	1.0	
UG2	39	13.9	22	14.5	17	13.2	1.15	0.46-2.85
UG3	31	11.1	11	7.3	20	15.5	2.13	0.70-6.49
PG or PhD	24	8.6	9	5.9	15	18.6	1.87	0.58-6.02
Not Studying	58	20.7	34	22.5	24	11.6	1.05	0.42-2.65
Ethnicity^{ce}								
NZ-European	198	70.7	103	68.2	95	73.6	2.44	0.82-7.26
Māori	57	20.4	30	19.8	27	20.9	0.98	0.44-2.16
Pacific Island	8	2.9	1	0.7	7	5.4	14.59**	1.45-146.56
European	30	10.7	17	11.2	13	10.1	2.14	0.57-7.98
Asian	5	1.8	4	2.6	1	0.8	0.16	0.01-2.09
Indian	8	2.9	5	3.3	3	2.3	0.92	0.11-7.81
African	2	0.7	2	1.3	0	0.0	0.00	
Other	18	6.4	10	6.6	8	6.2	1.55	0.37-6.51
Sexual Orientation^{de}								
Heterosexual	227	81.1	139	92.0	88	68.2	1.0	
Bisexual	26	9.3	5	3.3	21	16.3	7.68**	2.44-24.20
Gay/Lesbian	10	3.6	4	2.6	6	4.7	3.61	0.73-17.87

Questioning and Other	17	6.1	3	1.9	14	10.9	15.59**	3.06-79.47
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Note. *p* values as follows: **p*<.05, ***p*<.005. ^aDue to low numbers the two participants who indicated they were undertaking a University of Preparation Programme were included in the 1st year Undergraduate Category. ^bDue to low numbers, participants who indicated post-graduate level or higher education were grouped. ^cParticipants were able to select multiple ethnic affiliations. Each ethnicity was coded as a separate dichotomous variable, this also their protected anonymity. ^dParticipants were able to select multiple sexual orientations. Participants who selected more than one orientation were included in the Questioning and Other Category. This was to reflect the continuum sexuality is understood to exist on. ^eDue to low numbers participants who did not fit any of the above categories were grouped in Other and Questioning and Other groups respectively.

Method of NSSI

Table 4 below depicts the overall sample of those who indicated they had engaged in NSSI and what method of NSSI they used. Participants were able to indicate multiple forms of NSSI method. These descriptive results showed that the most common form of NSSI was scratching the skin to the point of bleeding, with 70.5% of the overall sample indicating they had engaged in this method. Other common forms of NSSI were cutting the body (*n*=77, 59.7%) and punching objects (*n* = 59, 45.7%). The least common forms were engaging in fighting (5.4%), ingesting caustic substances (3.1%) and breaking their own bones (2.3%). Although the current study sought to replicate Fitzgerald and Curtis's (2017) findings, in this case, a logistic regression to compare females and males was not run due to the small sample size of the male NSSI category (*n* =13).

Table 4

Type of NSSI used by Participants who endorsed NSSI

Type of SH	Overall <i>n</i> =129 <i>n</i>	%
Banged or Punched Self	25	19.4*
Bitten Skin	31	24.0*
Broken Own Bones	3	2.3
Burned Skin	32	24.8*
Carved Words into Skin	42	32.5*
Cut Body/Cutting	77	59.7*
Deliberate Asphyxiation	17	13.2
Engaged in Fighting	7	5.4
Ingesting Caustic Substances	4	3.1
Prevented Wounds Healing	20	15.5*
Pulled out Hair	23	17.8*
Punched Objects	59	45.7*
Ripped or Torn Skin	29	22.5*
Rubbed Glass into, or Pierced Skin	26	20.1*

Salt and Ice burns	12	9.3
Scratched Skin	91	70.5*
Tried to Break Own Bones	6	4.6

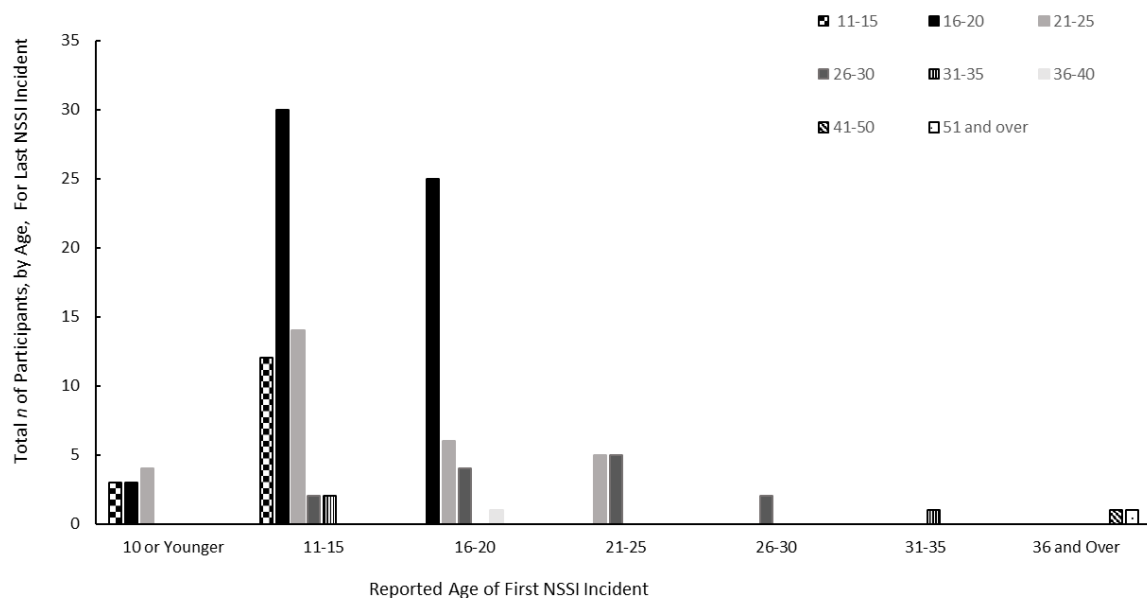
Note. Over 15% of the sample engaged in this type of NSSI is marked with *. Methods indicated that were less than 3% of the sample were excluded from this table.

NSSI and Age

To further investigate the age of onset and cessation of NSSI, a chi-squared test of independence was run on the age of first NSSI incident and the age of last NSSI incident. This test showed there was a statistically significant association between the age at first NSSI incident and the age at last NSSI incident ($\chi^2(64) = 404.38, p = <0.001$). As depicted in Figure 1, as the age increased, the fewer participants started to engage in NSSI. The majority of participants' first incidence of NSSI was between 11-20 years old, as was their last NSSI incidence. Smaller sample sizes for the older age groups (21 and above) may have influenced this test's statistical significance, and therefore results are interpreted with caution.

Figure 1

Age at First Engagement in NSSI and Age at Last Engagement in NSSI.



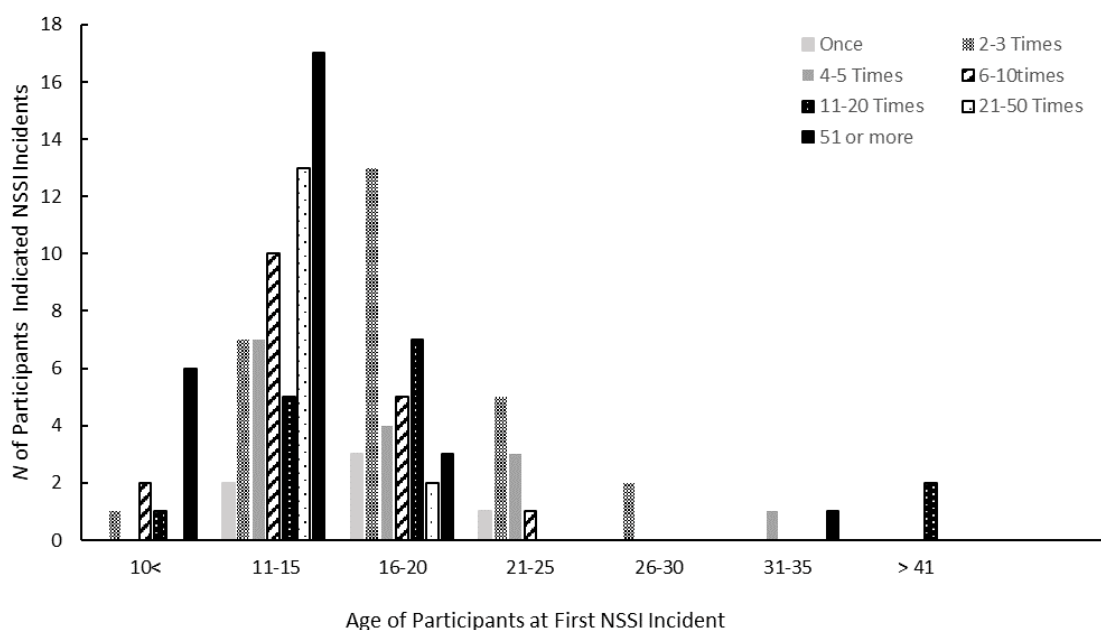
NSSI Age of Onset and Number of Incidents

To investigate whether the age of onset was related to the total number of incidents of NSSI, a chi-squared test of independence was run on age of first NSSI incident and amount of NSSI incidents over a participant's lifetime (see Figure two). This test showed there was a statistically significant association between the age that participants first engaged in NSSI and how many subsequent incidents they engaged in ($\chi^2(56) = 131.293, p = <.001$).

Participants who reported first engaging in NSSI early in their life (less than ten years of age, or between 11-15 years of age) had higher rates of engaging in NSSI more than 50 times. As the age of onset of NSSI increased, rates of engagement in NSSI decreased. Those who reported they were between 16-20 years of age when first engaging in NSSI had higher rates of reporting two-three incidents of NSSI over their lifetime. Smaller sample sizes for the older age groups (21 and above) may have influenced this test's statistical significance and therefore results are interpreted with accordingly.

Figure 2

Age at First Reported NSSI and the Number of NSSI Incidents.



NSSI, Depression, Anxiety and Stress

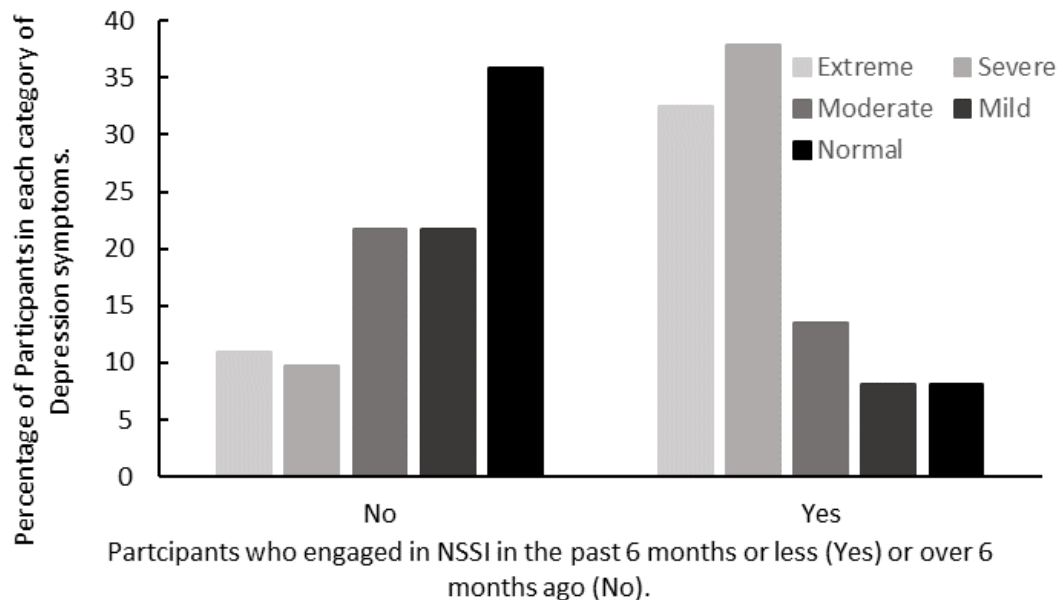
The current study initially intended on having a larger focus on engagement in NSSI in relation to experiencing anxiety, depression and stress. However, due to the sample size being considerably smaller than needed to run the appropriate analyses, this focus was reduced.

There were several separate chi-squared tests of independence run, however, to determine the previous relationship. Chi-squared tests were run between participants who reported engaging in NSSI in the last six months or less and their recent experiences of depression, anxiety and stress, according to the five categories specified in the Depression, Anxiety, Stress Scale 21 (DASS21). Of the 129 participants who reported NSSI, 37 (28.68%) reported engaging in NSSI in the past six months. Participants who reported last engaging in NSSI over six months ago (previous NSSI) were compared to those that had (recent NSSI) in three chi-squared tests of independence, in relation to the five categories of severity outlined in the DASS21 (Extremely Severe, Severe, Moderate, Mild and Normal).

The chi-square test of independence between depressive symptoms displayed in the DASS21 and engagement in recent or past NSSI were statistically significant ($\chi(4) = 29.80, p = <0.001$). Participants who reported engaging in NSSI in the past six months or less, had higher rates ($n = 26, 70.27\%$) of reporting symptoms of depression in the extremely severe or severe range, according to the DASS21. Participants who had previously reported engaging in NSSI but had not engaged in NSSI in the past six months had lower rates of experiencing depressive symptoms in the extremely severe or severe range ($n = 19, 20.65\%$). There were 35.87% previous NSSI category participants classified as within the normal range within the depression subscale, and 8.10% of participants classified as within the normal range, for the recent NSSI group (see; Figure 3).

Figure 3

Participants Depression Scores on the DASS21 compared to recent or previous NSSI.

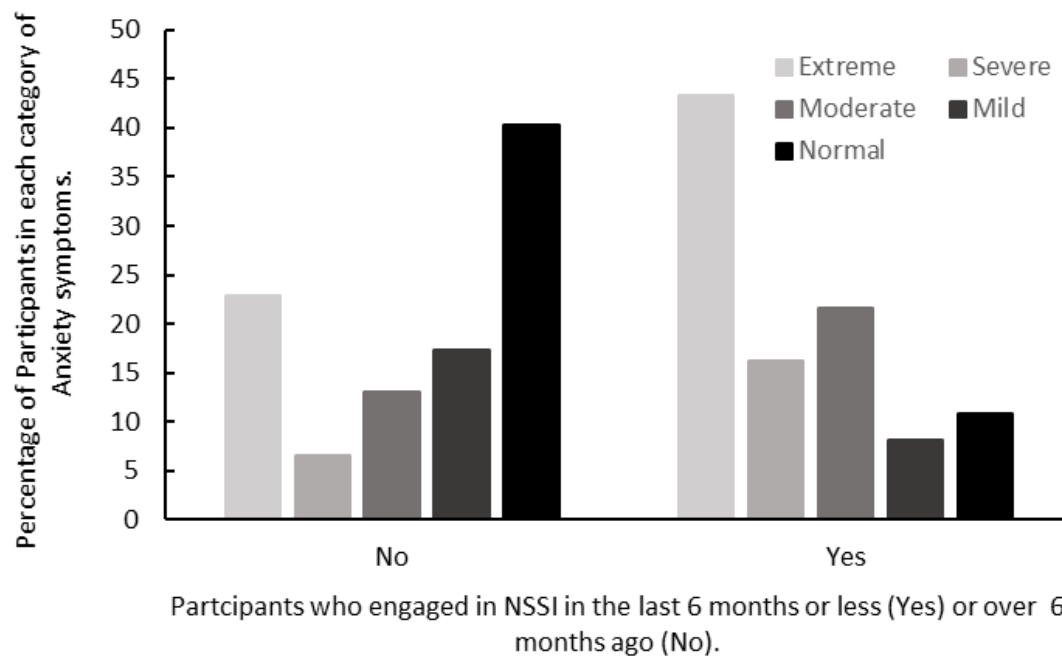


Note. Participants who scored in the extremely severe, severe, moderate, mild or normal range on the DASS21 Depression scale, and who had either engaged in NSSI over 6 months ago (No), or less than 6 months ago (Yes).

The chi-square test of independence between anxiety symptoms displayed in the DASS21 and engagement in recent or past NSSI were statistically significant ($\chi^2(4) = 16.48, p = 0.002$). Participants who reported engaging in NSSI in the past six months or less had higher rates ($n = 22, 59.46\%$) of reporting symptoms of anxiety in the extremely severe or severe range, according to the DASS21. Participants who reported previously engaging in NSSI but had not engaged in NSSI in the past six months had lower rates of experiencing anxiety symptoms in the extremely severe or severe range ($n = 27, 29.35\%$). There were 40.22% of participants in the previous NSSI category who were classified as within the normal range within the anxiety subscale, and 10.81% of participants classified as within the normal range, for the recent NSSI group (see; Figure 4).

Figure 4

Participants Anxiety Scores on the DASS21 compared to recent or previous NSSI.

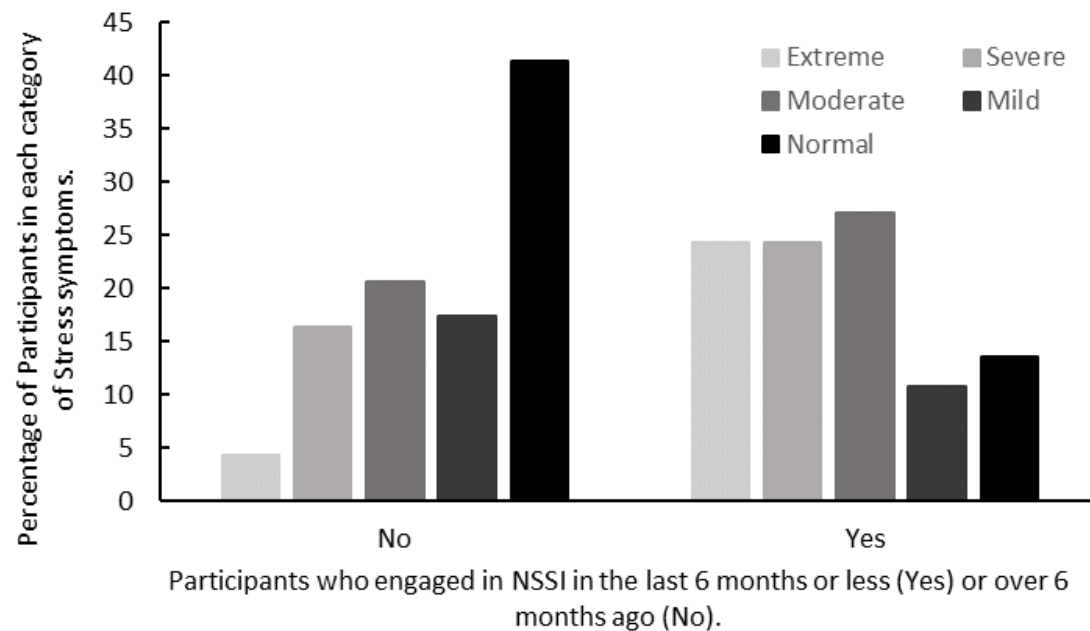


Note. Participants who scored in the extremely severe, severe, moderate, mild or normal range on the DASS21 Anxiety scale, and who had either engaged in NSSI over 6 months ago (No), or less than 6 months ago (Yes).

The chi-square test of independence between stress symptoms displayed in the DASS21 and engagement in recent or past NSSI were statistically significant ($\chi^2(4) = 18.69, p = 0.001$). Participants who reported engaging in NSSI in the past 6 months or less, had higher rates ($n = 18, 48.65\%$) of reporting symptoms of stress in the extremely severe or severe range, according to the DASS21. Participants who had previously reported engaging in NSSI but had not engaged in NSSI in the past six months had lower rates of experiencing stress symptoms in the extremely severe or severe range ($n = 19, 20.65\%$). There were 41.30% of participants in the previous NSSI category who were classified as within the normal range within the stress subscale, and 13.51% of participants classified as within the normal range, for the recent NSSI group (see; Figure 5).

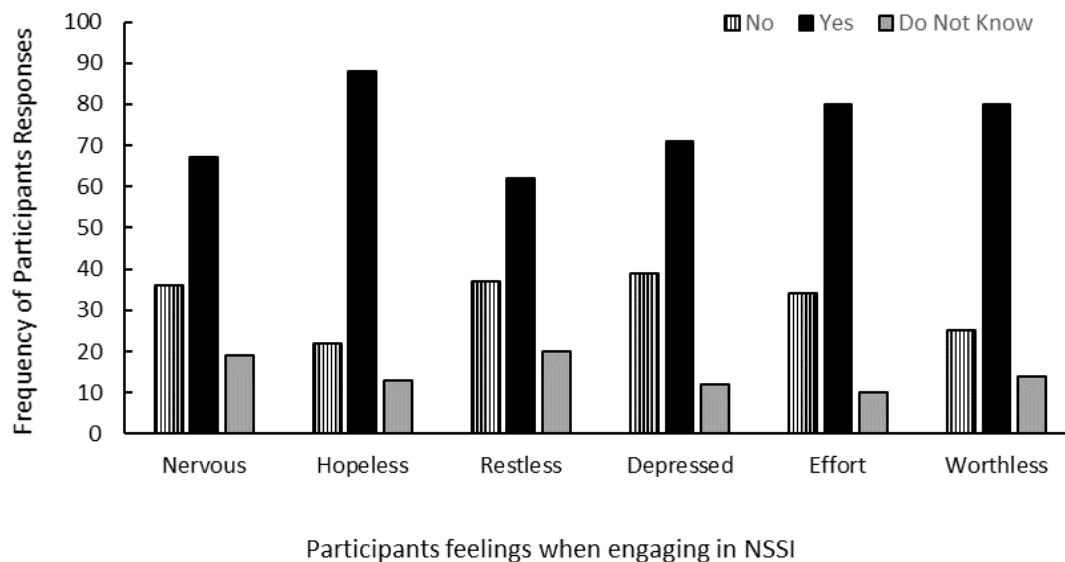
Figure 5

Participants Stress Scores on the DASS21 compared to recent or previous NSSI.



Note. Participants who scored in the extremely severe, severe, moderate, mild or normal range on the DASS21 Stress scale, and who had either engaged in NSSI over 6 months ago (No), or less than 6 months ago (Yes).

There were six questions related to the constructs of anxiety and depression, asked of participants who indicated they had engaged in NSSI. The two questions relating to anxiety were “Were there long periods of time when you were intentionally hurting yourself that you felt: Nervous; Restless or Fidgety. The questions relating to the construct of depression were “Were there long periods of time when you were intentionally hurting yourself that you felt: Hopeless; So depressed nothing would cheer you up; That everything was an effort; Worthless. Descriptive statistics of frequency and percentage were investigated for the above questions.

Figure 6*Frequency of Responses to Reported Feelings when Engaging in NSSI*

Note. Number of participants who reported feeling nervous, hopeless, restless or fidgety, depressed, like everything was an effort or worthless for long periods of time when engaging in NSSI.

There were 122 participants who answered the question relating to nervousness. Of these, 36 participants indicated there were not long periods of time when they engaged in NSSI where they also felt nervous (29.50%), and 67 (54.91%) indicated there was. The remainder of the sample indicated they did not know ($n = 19$, 15.57%). There were 119 participants who answered the question relating to having long periods of time where they engaged in NSSI when they also felt restless or fidgety. There were 37 participants who indicated no (31.09%) and 62 participants (52.10%) who indicated there were long periods of time when engaging in NSSI when they also felt restless and fidgety. The remaining participants indicated they did not know ($n = 20$, 16.80%). There were 123 participants who answered the question about hopelessness and engagement in NSSI. Of the 123 participants, 13 (10.56%) indicated they did not know, 22 (17.88%) indicated they did not feel hopeless

for long periods of time when engaging in NSSI, and 88 (71.54%) indicated they felt hopeless for long periods of time when also engaging in NSSI. There were 122 participants who answered the question about feeling so depressed that nothing could cheer you up and engagement in NSSI. Of the 122 participants, 12 (9.83%) indicated they did not know, 39 (31.97%) indicated there were not long periods of time they felt depressed when engaging in NSSI, and there were 71 (58.19%) who indicated there was. There were 124 participants who answered the question about everything feeling like an effort for long periods of time when also engaging in NSSI. There were 10 participants (8.06%) who indicated they did not know, 34 (27.41%) who indicated they did not feel this way, and 80 (64.52%) who indicated there were long periods of time when engaging in NSSI where they felt everything was an effort. There were 119 participants who answered the question about feeling worthless for long periods of time, when engaging in NSSI. Of the 119, there were 25 (21.01%) who indicated there was not, 14 (11.76%) who indicated they did not know and there were 80 (67.23%) who indicated there were long periods of time when engaging in NSSI when they felt worthless.

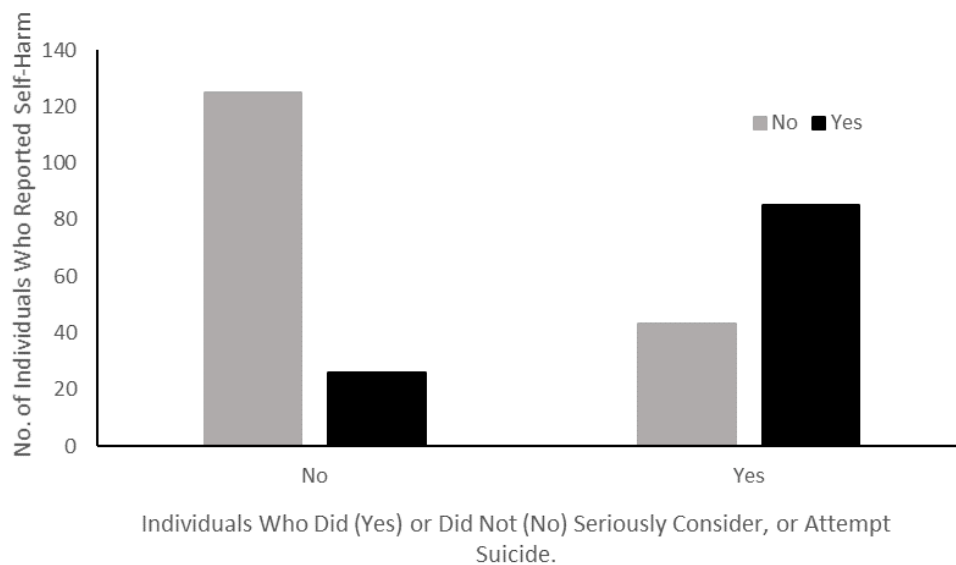
Suicidal Ideation or Attempt Prevalence

There were 288 participants who answered the question: Have you seriously considered or attempted suicide? of these participants, 117 indicated yes, they had seriously considered or attempted suicide which was 40.6% of the sample. Of the 117 participants who indicated they had seriously thought about suicide, 116 answered the question that most accurately described their suicidality experience/s. There were 32 participants (27.4%) also indicated that although they had thought about suicide, they were not serious about carrying the act out. There were 29 participants (25.0%) who thought seriously about it. There were 30 (25.9%) participants who had a method, plan, or wrote a suicide note but did not carry it out. There were 25 participants who had followed through with a suicidal act, with 8.8% not receiving medical attention and 12.8% receiving medical attention for the act.

NSSI and Suicidality

There were 279 participants included in the analysis of those who engaged in NSSI and had reported seriously considering or attempting suicide. One participant of the 280 who answered the NSSI questions was excluded from the analysis as they had not answered the question relating to suicidality. Participants who had answered yes to seriously considering or attempting suicide, and on the subsequent questions, answered that they had thought about suicide but would not carry it out were still included in the suicidality group for subsequent analyses. A chi-square test of independence was run on NSSI and seriously considered or attempted suicide at some point in the participant's life to determine if there was an association between engaging in NSSI and experiencing suicidality for this cohort. The test was statistically significant ($\chi(3) = 40.54, p = <0.001$). There was an association between participants who reported engaging in NSSI and participants who reported they had seriously considered or attempted suicide at some time in their life. Participants who reported they had seriously considered or attempted suicide had higher rates of also reporting engagement in NSSI.

Of the 279 participants included in this analysis 111 (39.7%), indicated they had seriously considered or attempted suicide. There were 85 participants (30.46% of the total sample, and 65.9% of NSSI sample) who indicated they had both engaged in NSSI and seriously considered or attempted suicide. Results are depicted in Figure 7, below.

Figure 7*NSSI and Suicidality**NSSI Frequency and Suicidality*

A logistic regression was run to ascertain whether the number of times an individual had engaged in NSSI could predict suicidal ideation or attempt. This is one measure used to assess the theory of acquired capability (see; Joiner, 2005). There were 132 participants who completed the question of how many times they had engaged in NSSI. One participant was excluded from the analysis as they had not completed the suicidality question. The logistic regression model was statistically significant ($X^2(6) = 20.66, p = 0.002$). The model explained 20.1% (Nagelkerke R^2) of the variance in NSSI and correctly classified 69.5% of cases. The results showed that participants who engaged in NSSI two-three times were not more likely than those who engaged in NSSI once to experience suicidality (OR= 2.66, CI= 0.59-12.04, $p = 0.20$). Participants who had engaged in NSSI 4-5 times were also no more likely to experience suicidality than those who had engaged only once (OR= 2.33, CI= 0.44-12.40, $p = 0.32$). Participants who engaged in NSSI 6-10 times were more likely than those who had engaged once to also experience suicidality (OR= 6.93, CI= 1.29-37.22, $p = 0.024$). Similarly,

those who had engaged in NSSI 11-20 times and 21-50 times had the same odds of increased suicidality ($OR=10.66$, $CI=1.70-66.72$, $p=0.01$). Participants who had engaged in more than 50 times had 15.33 times the odds of experiencing suicidality ($CI=2.80-83.88$, $p=0.002$). It is noted that the confidence intervals had a wide range, indicating small sample sizes between groups, results and therefore interpreted accordingly.

NSSI, Suicidal Ideation or Attempt and Abuse

NSSI and Abuse

A chi-squared test of independence was run on age at the first experience of sexual abuse and the first age of NSSI to investigate further the relationship between engaging in NSSI and experiencing sexual abuse. There were 79 participants who indicated they had experienced sexual abuse and engaged in NSSI at some point in their lives. The chi-square showed that there was a statistically significant association between the age that participants first experienced sexual abuse, and first engaged in NSSI ($\chi(35) = 72.68$, $p < 0.001$). There were 23 participants who first engaged in NSSI between the ages of 11-15 years, and experienced sexual abuse at either ten or younger or between 11-15 years of age. There were 13 participants between 16-20 years of age when they first engaged in NSSI, who also experienced sexual abuse at ten years or younger or between 16-20 years old. The remaining age groups (21-51 and over) all reported experiencing sexual abuse before they first engaged in NSSI ($n=10$). There were 20 participants who first engaged in NSSI between 11-15 years of age, who experienced sexual abuse between 16-20 years. There were 31 participants who reported first engaging in NSSI before first experiencing sexual abuse.

A chi-squared test of independence was also run on age at first experience of physical abuse and age at first NSSI. There were 64 participants who indicated experiencing physical abuse and engaging in NSSI. Two participants were excluded from the following chi-square analysis because they had not answered the question about their age of first physical abuse.

Of the 62 remaining participants, the chi-square showed there was a statistically significant association between age of first engagement in NSSI and first experience of physical abuse ($\chi^2(24) = 88.78, p = <0.001$). There were 14 participants of the entire sample who reported engaging in NSSI before experiencing physical abuse. The remaining 48 participants reported experiencing physical abuse before their first engagement in NSSI. There were 16 participants who reported physical abuse at ten years or younger, who engaged in NSSI before 16 years of age. The 14 participants who engaged in NSSI before experiencing physical abuse were all less than 16-years-old.

The variables of physical, sexual and emotional abuse were significantly related to one another, and therefore a logistic regression on type of abuse and NSSI behaviours could not be conducted. To mitigate the multicollinearity between types of abuse and NSSI, the categories were of each type were combined, and thus the following reflects how many types of abuse an individual experienced. A logistic regression was run on how many types of abuse participants experienced (one type, two types or three types) and life difficulties to analyse if experiences multiple types of abusive experiences increases the likelihood of engagement in NSSI. The logistic regression model was statistically significant ($X^2(11) = 63.28, p < 0.00$). The model explained 27.0% (Nagelkerke R^2) of the variance in NSSI and correctly classified 70.7% of cases. The Crude Odds Ratios (OR) and Confidence Intervals were analysed for each variable (see; Table 5).

Table 5*Number of Types of Abuse and Life Difficulties and NSSI engagement*

	Total Sample <i>N</i> =280		No NSSI Sample <i>N</i> =151		NSSI Sample <i>N</i> =129			
Life Events	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	OR	CI
One Type of Abuse	68	24.3	34	22.5	34	26.4	3.54**	1.74-7.17
Two Types of Abuse	59	21.1	23	15.2	36	27.9	5.53**	2.63-11.62
Three Types of Abuse	49	17.5	14	9.3	35	27.1	11.59**	4.84-27.75
Life Difficulties								
Death of Parent	39	13.9	27	17.9	12	9.3	0.27*	0.11-0.63
Death of Sibling	81	28.9	44	29.1	37	28.7	0.89	0.48-1.63
Parental Separation	107	38.2	52	34.4	55	42.6	1.22	0.69-2.18
Direct Trauma	68	24.3	34	22.5	34	26.4	0.65	0.33-1.30
Witnessed Trauma	81	28.9	44	29.1	37	28.7	0.91	0.47-1.74
Suicide of Family	54	19.3	24	15.9	30	23.3	1.41	0.66-3.00
Suicide of Friend	81	28.9	29	19.2	52	40.3	2.04*	1.08-3.86
Other Difficult Events	16	5.7	9	6.0	7	5.4	0.85	0.26-2.77

Notes. *p* values as follows: * <0.05 , ** <0.001 . Variables for type of abuse were coded as 0, 1,2,3 dependant on how many types of abuse they had experienced. Participants were able to select multiple life-difficulties. See Appendices One for questions relating to the above variables.

Suicidality and Abuse

To measure the risk of suicidality following experiences of abuse and other life difficulties, a logistic regression analysis was run. Two participants were excluded from suicidality and abuse and life difficulties due to not answering the question on life difficulties. This left 286 participants. The binomial logistic regression was run to determine if participants who indicated they had seriously considered, or attempted suicide had higher odds of experiencing any type and/or numerous types of abuse and other life difficulties than those who had not seriously considered or attempted suicide. The dependent variable was those participants who indicated they had seriously considered or attempted suicide and participants who had not. The logistic regression model was statistically significant ($X^2(11) = 76.84, p < 0.001$). The model explained 31.8% (Nagelkerke R^2) of dependent variable variance and correctly classified 72.7% of cases. The model indicated that those who had

reported one type of abuse (emotional, physical or sexual) at some time in their life were 2.48 times more likely to indicate they had seriously considered or attempted suicide (CI=1.15-5.11). As the types of abuse increased from experiencing one to experiencing all three types, the higher likelihood that participants had seriously considered or attempted suicide (Two Types: OR= 3.61, CI= 1.70-7.64; Three Types: OR= 12.18, CI= 5.01-29.61). Of those participants who experienced life difficulties, the statistically significant categories included participants who indicated they had experienced a death in the family, or by a friend or acquaintance by suicide. Those who indicated they had experienced a death by suicide in the family were 2.53 times more likely to have experienced seriously considering or attempting suicide. Those who reported experiencing the death of a friend or acquaintance to suicide were 2.72 times more likely to have seriously considered or attempted suicide. Participants who indicated another type of life difficulty were 3.45 times more likely to indicate they had seriously considered or attempted suicide. A qualitative investigation of the other life difficulties participants experienced and those who reported 'yes' to suicidality found that four participants (44.4%) reported experiencing a child/children's death. The remainder of participants indicating 'yes' to suicidality reported experiencing other major life stressors and/or mental health difficulties. Of those who reported no suicidality, the other life difficulties reported were family or partner separation/estrangement (33.3%), death of a friend (16.6%) undergoing surgery (16.6%) and witnessing others experiencing mental health difficulties (33.3%). (See; Table 6 below).

Table 6*Logistic Regression for Suicide Consideration or Attempt and Life Difficulties and Abuse.*

	Total Sample <i>N</i> =286		No Suicide Sample <i>N</i> =169		Suicide Sample <i>N</i> =117			
<i>n</i> of Abuse	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	OR	CI
One Type of Abuse	70	24.1	43	25.4	27	23.1	2.38*	1.13-5.00
Two Types of Abuse	59	20.9	27	16.0	32	27.4	3.71***	1.74-7.90
Three Types of Abuse	50	17.5	14	8.3	36	30.7	12.18***	5.01-29.6
Life Difficulties								
Death of Parent	40	13.9	22	7.7	18	15.4	0.69	0.30-1.57
Death of Sibling	82	28.7	47	16.4	35	29.9	0.87	0.47-1.61
Parental Separation	110	38.5	55	19.2	55	47.0	1.66	0.93-2.97
Direct Trauma	72	25.2	42	14.7	30	25.6	0.35**	0.17-0.73
Witnessed Trauma	86	30.1	43	15.0	43	36.8	1.53	0.80-2.92
Suicide of Family	55	19.2	21	7.3	34	29.0	2.52*	1.19-5.30
Suicide of Friend	83	29.0	31	18.3	52	44.4	2.72**	1.45-5.13
Other Difficult Events	16	5.6	6	3.6	10	8.5	3.45*	1.01-11.74

*Notes. p values as follows: *<0.05, **<0.05, ***<0.001. Variables for type of abuse were coded as 0, 1,2,3 dependant on how many types of abuse they had experienced. Participants were able to select multiple life-difficulties. See Appendices One for questions relating to the above variables.*

Motivations, Functions, NSSI and Abuse

Initial Motivations

The motivations and functions for engaging in NSSI were investigated using descriptive statistics. Participants were able to select more than one motivation for initially engaging in NSSI. There were 129 participants who responded to the motivation for the NSSI questions. Table 7 below shows the results. The descriptive analysis showed that participants indicated their initial motivation for engaging in NSSI was because they were upset (39.53%) (emotional regulation) or angry at themselves (34.88%) (self-punishment). Less common motivations for first engaging in NSSI were social influences, such as a friend suggesting they try it (3.10%) wanting to fit in (5.42%) reading about it on the internet (6.20%), it seemed to work for friends (8.58%), and it seemed to work for celebrities (2.32%). Responses

regarding motivations where anger or other emotions were directed at others included, being angry at someone else (14.73%) and wanting to shock or hurt someone (0.78%). Overall, just over 15% of the sample described these motivations.

Table 7

Motivation for first NSSI engagement

Motivation for Starting NSSI	<i>n</i> = 129	%
A friend suggested I try it	4	3.1
I accidentally discovered it	21	16.3
I wanted to fit in	7	5.4
I read about it on the internet	8	6.2
I saw it in a movie	8	6.2
I wanted someone to notice me	8	6.2
I wanted to shock or hurt someone	1	0.8
I was angry at myself	45	34.9
I was upset	51	39.5
It felt good	23	17.8
It seemed to work for friends	11	8.6
I was drunk or high	3	2.3
It seemed to work for celebrities	3	2.3
I was angry at someone else	19	14.7
Other	13	10.8
I cannot remember	23	17.8

Functions of NSSI

Table 8 below shows the most commonly endorsed functions of NSSI. Participants were able to select more than one function of NSSI, with 124 participants answering this question. The most commonly endorsed functions of NSSI were to cope with uncomfortable feelings (64.5%) or to relieve stress or pressure (62.1%). The least common were social functions relating to friends or feeling included within a group including, because my friends expect me too (0.8%), to be a part of a group (2.4%) and because my friends hurt themselves (5.6%). Social functions relating to wanting others to notice were reported by 15.3% and an endorsed function of their engagement in NSSI. Over half the sample (57.3%) reported that a function of their NSSI was to change their emotional pain into something physical. There were 17.7% of the sample who reported NSSI was counter suicidal, in that it was a way to

avoid committing suicide. Conversely, 4.8% of the sample reported the functions of NSSI was a way to practice suicide and, 5.6% reported NSSI was a suicide attempt.

Table 8*Functions of NSSI*

Function of NSSI	<i>n</i> 124	%
1. To cope with uncomfortable feelings (e.g., depression or anxiety)	80	64.5
2. To relieve stress or pressure	77	62.1
3. Because it feels good	30	24.2
4. Because I like the way it looks	10	8.1
5. A self-punishment or to atone for sins	34	27.4
6. To help me cry	21	16.9
7. Because my friends expect me to	1	0.8
8. To be part of a group	3	2.4
9. To get a rush or surge of energy	16	12.9
10. In the hope that someone would notice that something was wrong/so others would pay attention to me	19	15.3
11. To get control over myself or my life	45	36.3
12. As a way to practice suicide	6	4.8
13. As an attempt to commit suicide	7	5.6
14. To feel closer to God	1	0.8
15. So I do not hurt myself in other ways	21	16.9
16. To shock or hurt someone	5	4.0
17. To distract me from other problems or tasks	39	31.5
18. To change my emotional pain into something physical	71	57.3
19. To avoid committing suicide	22	17.7
20. Because I get the urge and cannot stop it	35	28.2
21. To deal with frustration	59	47.6
22. To create an excuse to avoid something else	10	8.1
23. To deal with anger	46	37.1
24. Because of self-hatred	48	38.7
25. Because my friends hurt themselves	7	5.6
26. Other	10	8.1

Notes.

Participants were able to select more than one function of NSSI. Binary categories created for Logistic regression.

Next, the function questions were split into the groups outlined in Taylor et al. (2018) (see Table 2 in Method section). These were included in this category as they may have been related to more than one category outlined above. As depicted in Table 8, of those who reported functions of emotional regulation, the majority of the sample reported this as one or the only overall function of their engagement in NSSI ($n = 117$). There was 45.2% of the overall sample who reported engaging in NSSI with the function of self-punishment. There were 19 participants who reported the function (or one of the functions) was to communicate their distress to others. There were five participants who engaged in NSSI to punish others (4.0%) and 11 who reported peer influence was one of the functions of engagement in NSSI (8.8%). There were 26 participants in the other or ambiguous category (21.0%). Further investigation into the function showed that 76 of 124 explained that NSSI was working emotional coping strategy. Using descriptive statistics, analysis of each participant endorsed functions showed there were seven participants of the total sample who did not endorse one emotional regulation function of SH (5.6%).

Function of NSSI and Abuse

Chi-squared tests of independence were run on reported physical, sexual or emotional abuse to compare if there is an association between any particular functions of NSSI and types of abuse. All responses with an expected count of less than five were excluded from the analysis to ensure accurate results. All but one of these tests were not statistically significant ($p > 0.05$). This showed that the functions of participants NSSI were not associated with experiencing any specific type of abuse, whether emotional, sexual or physical. Emotional abuse was found to be significantly associated with the function “as an attempt to commit suicide” ($\chi^2(2) = 6.11, p = 0.047$).

Next, the functions were split into the categories outlined by Taylor et al., (2018). To determine if there was a significant relationship between the overall function/s of NSSI and

experiences of abuse, three binary logistic regressions were run, with sexual, physical or emotional abuse as the dependent variable. The logistic regression model for sexual abuse and function of NSSI was not statistically significant ($X^2(7) = 9.91, p = 0.19$). The model explained 9.6% (Nagelkerke R^2) of the variance in the dependent variable and correctly classified 65.3% of cases. The logistic regression model for physical abuse and function of NSSI was not statistically significant ($X^2(7) = 10.98, p = 0.13$). The model explained 11.3% (Nagelkerke R^2) of the variance in the dependent variable and correctly classified 62.1% of cases. The logistic regression model for emotional abuse was statistically significant ($X^2(7) = 15.27, p = 0.03$). The model explained 15.5% (Nagelkerke R^2) of the variance in the dependent variable and correctly classified 62.9% of cases. In this model, the ‘other’ category was statistically significant (OR= 5.27, CI= 2.03-13.70, $p = 0.001$). This showed that participants were 5.27 times more likely to report the function of NSSI as ‘other’ if they had experienced emotional abuse (see; Table 2 for list of functions in other category).

Function of NSSI and Age Cohort

To investigate the phenomenon of the significance of 31-35-year olds reporting NSSI the functions relating to potential cohort effect influences from peers, groups or NSSI as a visible form of belonging to a particular group was investigated through descriptive statistics. The functions that were considered to be potentially relating to belonging to a peer group included “Because I like the way it looks”, “Because my friends hurt themselves”, “Because my friends expect me too” and “To be part of a group”. There were 14 in the 31-35 age bracket, who answered the NSSI function questions. Of these participants, there was one (7.14%) who reported they NSSI because they liked the way it looks, two (14.28%) reported because their friends hurt themselves, one (7.14%) because their friends expected them too and one (7.14%) who engaged in NSSI to be part of a group. When comparing the percentages to the remainder of the sample ($n = 110$), nine participants who reported

engagement in NSSI because they liked the way it looks (8.18%), 0 (0.00%) who reported because their friends expected them to, two participants (1.81%) they engaged in NSSI to be part of a group, and five participants (4.54%) who reported the function was because their friends hurt themselves. Although no further tests were run on this data, there does not appear to be a difference in reporting of function between the age group 31-35 and the remaining age groups; this is possibly due to a small sample size in the 31-35-year age bracket.

Summary of Results

There were 280 participants who answered the NSSI questions, with almost half (46.1%) indicating they had engaged in NSSI at some point in their lives. Participants who indicated they were 31-35 years of age were most likely to report engaging in NSSI compared to the youngest age group (18 years or under). Females were significantly more likely than males to engage in NSSI, with the sample size of non-binary participants too small to provide meaningful analysis. The highest percentage of those who indicated NSSI were between 11-20 years old when they first engaged and stopped engaging in NSSI. Those who were younger when they first engaged in NSSI had a higher percentage of multiple engagements in NSSI. Over 60% of participants reported NSSI also reported seriously considering or engaging in suicidal behaviours. However, a percentage of the sample had considered or engaged in suicidal behaviours had not reported NSSI. Participants identifying as Pacifica were significantly more likely to report NSSI engagement. Experiencing physical or sexual abuse was predictive of engagement in NSSI, as well as engagement in consideration of suicide, or engagement in suicidal behaviours. Experiencing the loss of a friend or acquaintance to suicide significantly predicted participant engagement in NSSI. Conversely, experiencing the loss of a parent to nature or non-suicidal death predicted less likely to engage in NSSI. Participants who had experienced the loss of a friend, acquaintance or family member to suicide were significantly predicted to have seriously considered or engaged in suicidal behaviours themselves. The most common motivation for first engaging in NSSI was upset or angry at oneself. The most common function of NSSI was to cope with uncomfortable feelings or relieve stress of pressure. There was a larger percentage of participants who indicated symptoms of depression and anxiety when engaging in NSSI.

Chapter Five:

Discussion

Prevalence

Prevalence of NSSI

There were 304 participants included in the current study, with 396 beginning the survey. The latter was a notably smaller sample size of 862 participants (772 of which completed the survey) from the Fitzgerald and Curtis (2017) study. In the current study, the majority (82.9%) of individuals identified as female, a higher percentage than Fitzgerald and Curtis' sample (71.6% female). Within the current study's sample, 46.1% of participants indicated they had engaged in NSSI at some point in their lifetime. In comparison, this rate was higher than that found by Fitzgerald and Curtis (2017), who reported an NSSI rate of 38.2%. The percentage of participants who indicated they had engaged in NSSI in the current research, was similar to those found in the New Zealand study by Garisch and Wilson (2015). Garisch and Wilson (2015) found 830 adolescents reported engagement in NSSI, or 48.7% of their overall sample. Another study by Lloyd-Richardson et al. (2007) also found similar NSSI rates among adolescent populations (46.5%). As in the current study, both Fitzgerald and Curtis (2017) and Lloyd-Richardson et al. (2007) also used an anonymous data collection method and behaviours checklists of NSSI. Both data collection methods have been found to increase the prevalence rates of reported NSSI, over and above a dichotomous question on NSSI, as it encapsulates a variety of behaviours (Kapur et al., 2013). Interestingly, comparing the prevalence rates found in the current study and the New Zealand studies by Fitzgerald and Curtis (2017), Garisch and Wilson (2015) and Lloyd-Richardson et al. (2007) appeared substantially higher, than the average prevalence rates reported in the international literature (18% average prevalence rate) (Muehlenkamp et al., 2012). It may be that international literature averages have included studies where prevalence has been recorded through

hospitalisations for SH, which only captures the population who receive medical attention (Baetens et al., 2011). Although, it may also be that the NSSI prevalence rate in New Zealand is higher compared to international studies, which would also reflect the high proportions of suicide statistics found in New Zealand, compared to other international statistics (WHO, 2016).

Of those who indicated NSSI in the past 12 months, our sample rate appeared substantially higher (39.5%) than the 13% reported by Fitzgerald and Curtis (2017). The rate we found was also considered high compared to international literature which used the same survey methods, such as Whitlock et al. (2011). Whitlock et al., (2011) reported that 6.8% of their sample of college-aged students had engaged in NSSI in the 12 months before the survey was taken. The high rate reported in this research may be due to self-selection bias in this sample (Heckman, 1990). However, it may also reflect the high rate of females who completed the survey, as females are more likely to engage in NSSI than males (Bresin & Schoenleber 2015; Evans et al., 2005, Fitzgerald & Curtis, 2017; Ivey-Stephenson et al., 2020; Madge et al., 2008; Sornberger et al., 2012; Whitlock et al., 2011). Moreover, there was a student and broader community populace in this sample, which may have contributed to the differences in prevalence rates of NSSI between the current study and Fitzgerald and Curtis (2017) due to other demographic differences.

Prevalence and comparisons of NSSI and Suicidal Ideation or Attempt

There were 40.9% of the participants in the current study who indicated seriously considering or attempting suicide at some point in their life. The former is comparable to national and international prevalence rates that show anywhere between 10% (Miranda-Mendizabal et al., 2019) and 33 % (Arnsow et al., 2011) in community populations. Our sample was considerably higher than that found in the international literature (for example; Arnsow et al., 2011; Miranda-Mendizabal et al., 2019). There were 65.9% of participants in

the current study who indicated both engaging in NSSI and experiencing suicidal ideation or attempt at some point in their lives. As Grandclerc et al. (2016), described, although there is a clear link between engagement in NSSI and suicidality, not all acts of SH are indicative of wanting to die. The former appears to explain the current study's findings on NSSI and suicidality above.

Method of NSSI

The current study showed that of the methods of NSSI participants endorsed, 11 methods were endorsed by 15% or over of the sample. These can be viewed in Table 3 in the result section. The current study replicated the findings of Fitzgerald and Curtis (2017) regarding what methods of NSSI are most common, with all 11 methods over 15% endorsed in this sample, the same as those endorsed by 15% or more in Fitzgerald and Curtis's (2017) sample. The most commonly reported method in the current study was scratched skin, with 70.5% of the sample indicating they had engaged in this method. Comparatively, Fitzgerald and Curtis (2017) found that scratching skin was the most common method, with a similar percentage of participants reporting having engaged in it (68.9%). Cut body of skin was the next most commonly endorsed method of NSSI in the current sample (59.7%) as was it in Fitzgerald and Curtis (2017) (56.7% of their sample). Similar percentages for each method were found across both the current and Fitzgerald and Curtis (2017) studies. In international literature, similar results have been found (for example; Turner et al., 2012). Turner and colleagues (2012) reported that 98.2% of their sample's participants had endorsed cutting as a method of NSSI, with it endorsed as the most commonly reported method. Scratching the skin was endorsed at similar rates as the current study and Fitzgerald and Curtis (2017), at 64.9% (Turner et al., 2012). Hitting self was endorsed at higher rates, with Turner and Colleagues (2012) reporting 63.6% of their sample endorsing this method, compared to the current study (19.4%), and Fitzgerald and Curtis (2017) (27.6%). Unfortunately, the current

study's sample size of males was too small to provide meaningful analysis of the method by gender.

Demographic Characteristics and NSSI

Gender

As was found in Fitzgerald and Curtis (2017), the current study also found that female participants were significantly more likely to report engagement in NSSI compared to male participants. As mentioned in the above section, this finding is unsurprising, given most international literature has found that females are more likely to report NSSI compared to males (Evans et al., 2005; Madge et al., 2008). However, the current study's results do counter findings by authors such as Klonsky et al. (2003) and Kaess et al., (2020). The difference in the results found in the current study, compared to that of Klonsky and colleagues and Kaess and colleagues, may be due to differences in samples' demographics. For example, Klonsky et al. (2003) studied military recruit's engagement in NSSI; it may be that given the ratio of males to female in the military (2:1), and the years of compulsory service (males three years, female two years) males are exposed to additional or different stressors, placing them more at risk of NSSI than females (Shelef et al., 2014). As our sample were university students and the wider community (presumably maintaining civilian roles) they may be less likely to be exposed to the same level or type of job stress than military workers, are exposed to (Pflanz & Sonnek, 2002). Unfortunately, the sample of participants identifying as non-binary or another gender to provide meaningful data analysis. The former may be an important area for future research given findings that have found higher rates of NSSI among participants identifying as another gender, not included in the binary of male/female (Veale et al., 2017).

Sexuality

As was replicated in the current research, from Fitzgerald and Curtis's (2017) study, participants who identified with a minority sexuality (not exclusively heterosexual) generally had higher rates of engagement in NSSI. Interestingly, the current study found that participants who identified as gay or lesbian were not significantly more likely than exclusively heterosexual participants to report NSSI. The former finding is inconsistent with what Fitzgerald and Curtis (2017) found; those identifying as gay or lesbian were more likely than another who identifies as heterosexual to engage in NSSI. One explanation may be the slowly growing social acceptance among the wider western community for individuals attracted exclusively to the same sex (Hertlein et al., 2016). There is literature suggesting that this shift of wider community acceptance of same-sex attraction does not extend beyond the binary of heterosexual or gay/lesbian. The binary way in which the heterosexual community views sexuality is said to erase those identifying as not exclusively heterosexual or gay/lesbian (Yoshino, 2000). The latter may explain the findings in the current study, which found participants identifying as bisexual, questioning or another sexuality as reporting more instances of NSSI. Meyer (2003) discussed a risk factor for NSSI can be the stress that occurs through social stigma, prejudice and discrimination of one's sexuality and sexual identity.

Ethnicity

Fitzgerald and Curtis (2017) found that Māori and European students at the University of Waikato reported a higher prevalence of engagement in NSSI than all other students were affiliated with another ethnic group. The former finding was not replicated in the current research. Instead, the current research highlighted that those identified as affiliating to a Pacifica identity had a significantly higher incidence of engagement in NSSI compared to all other ethnic groups. Due to the small sample size of participants identifying with Pacifica

identity within the current study, it would be dangerous to assume this is representative of Pacifica peoples generally, however.

Thus, a small sample size and self-selection bias may be the best explanation for this significant result. Despite this, there are to be few studies that have replicated our findings on a larger and more robust scale. A study by Fa'alili-Fidow et al. (2016) found that Pacific students were more likely to report engagement in NSSI over and above all other ethnic groups. According to hospital information from the Ministry of Health (2015), those identifying as Pacifica have lower rates of hospital visits for self-injury than both European and Māori individuals. It may be that our result reflects a higher engagement in more minor forms of NSSI amongst Pacific, which the hospital data would not include if hospital admission was not necessary (Baetens et al., 2011). The results found in the current study may also reflect the utilisation of health care services among the Pacifica community, which is less than New Zealand Europeans (Teevale et al., 2013). Due to a higher proportion of Pacific people living in socioeconomic disadvantage, accessing health care is more difficult (Wright & Hornblow, 2008). Furthermore, Tiatia-Seath (2014) and Wright and Hornblow (2008) commented that the health care system needs to better create a culturally competent and safe environment to meet the needs of Pacific peoples and to promote adherence to appropriate treatments. Last, our result may reflect the differences in understanding between western ideas of what constitutes SH and SH from a Pacifica perspective (Dash et al., 2017). It may be that the definition of NSSI used in this survey was not as inclusive of definitions from another cultural context.

Age

The current study found that participants were most likely to report engaging in NSSI between 11-20 years of age. Although, a considerable number of individuals also indicated they were younger than ten years at the time of first engagement in NSSI.

Closer analysis revealed, the age group 11-15 years was the most common age group reported in the current study to have first engaged in NSSI. If individuals were older than 12 years, the current findings appear to replicate international literature regarding the most common age group to engage in NSSI, which reports individuals are between 12-16 years when engaging in NSSI (Madge et al., 2008; Nock, 2010). Given these findings, it appears that NSSI is primarily a behaviour engaged in by adolescents (Madge et al., 2008; Nock, 2010). Possible explanations for these results are that NSSI engagement is influenced by adolescence's developmental stage, regarding identity formation (Cohon & Prinstein, 2006) and neurophysiology (Casey et al., 2010).

The current study found that 31-35-year-olds were significantly more likely than all other ages surveyed to report having a history of NSSI. The former was an initially unexpected and interesting result as it differed from results found in Fitzgerald and Curtis (2017). Closer analysis showed that these participants primarily reported engaging in NSSI, in adolescence. A possible explanation for the current study's result could be a potential cohort effect. For example, historically, the 1990s was known for a grunge culture (Stafford, 2018). It may be the cohort of 31-35-year olds reported engagement in NSSI during this time because of potential affiliations with groups of individuals who endorsed NSSI as part of a subculture (Scott & Chur-Hansen, 2008). Further investigation into a cohort effect revealed that the motivations for the engagement in NSSI, however, did not appear to be related to being part of a group. Thus, a likely hypothesis would be self-selection bias (Heckman, 1990), where in the current study, participants were more likely to partake in the survey if they had experienced mental health difficulties (including NSSI).

Another noteworthy finding in the current study was the age of onset of NSSI and the number of incidents. The younger the participant was at first engagement in NSSI the more incidents of NSSI reported over that participant's life. A possible explanation for this result is

the individual's developmental stage at the time of NSSI. Younger individuals have a lower capacity for regulating emotions (Moran et al., 2012), therefore, it may be that the younger individuals engaged in more NSSI behaviours than older individuals due to older individuals generating other emotional regulation strategies sooner, given their developmental age.

Furthermore, it may be that older individuals have more capacity to access resources (Kontopantelis et al., 2010) to stop NSSI, and are also less influenced by their peers (Shaffer & Kipp, 2012).

Depression, Anxiety, Distress and NSSI and Suicidality

As expected, the current study's results showed a significant association between constructs relating to depression, anxiety and distress. The former result is consistent with the international and national literature for depression (Miranda-Mendizabal et al., 2019) anxiety (Chartrand et al., 2012; O'Connor et al., 2009) and psychological distress (Menon et al., 2018). To elaborate, as literature on clinical populations indicates, adults in community samples who have ongoing experiences of psychological distress have increased likelihood of engagement in NSSI (Moller, Tait & Byrne, 2012) as is with clinical samples (Kashyap et al., 2015). As the current study's participants were above 18-years of age, the above international statistics were similar those found. For example, all participants in the current study who reported recently or currently engaging in NSSI were also likely to report significant psychological distress (as measured by depression, anxiety and stress).

There were 37 participants who reported engaging in NSSI in the last six months, with 70.27% also reporting they experienced severe symptoms of depression in the last two weeks, and 59.46% reporting they experienced severe symptoms of anxiety in the last two weeks. There were 48.65% of these participants who reported symptoms of severe stress in the last two weeks. Our results compare to around 50% across a community sample experiencing similar psychological distress recorded in the international literature (for

example; Laye-Gindhu & Schonert-Reichl, 2005). The constructs of depression in the current study included “Hopeless; So depressed nothing would cheer you up; Everything was an effort and Worthless” and of anxiety “Nervous; Restless and Fidgety”. There were 65.37% of the sample indicated they had experienced the above symptoms of depression for most of time when engaging in NSSI and 53.5% of the sample who indicated they experienced the above symptoms of anxiety for most of the time when engaging in NSSI. As discussed in the sections below, emotional regulation is a significant factor across many experiences of mental illness (Zetterqvist, 2017). It may, therefore, be that a mediating or moderating factor between the NSSI and psychological distress is the participant’s capacity to emotionally regulate.

As mentioned, the DSM-5 criteria include suicidality as one of the symptoms for some depressive disorders (American Psychiatric Association, 2013). Given this information, the relationship we found in the current study may also relate to the specific functions of the NSSI for individuals experiencing symptoms of depression. For example, it may be that NSSI functions as a way to practice, or prevent suicide (Muehlenkamp & Kerr, 2010) for the participants who indicated experiencing symptoms of depression. The original intention of this study was to explore the above constructs and NSSI further. Unfortunately, the sample size was too small to provide a more in-depth analysis of the constructs of depression, anxiety and stress and functions to provide further meaningful interpretation.

Abuse Type, Abuse Frequency, NSSI and Suicidality

The findings in the literature surrounding the link between SH, suicidality and abuse differ in the strength of the association between studies; with some studies indicating the predictive ability of abuse to the first onset of SH (Madge et al., 2011) to other meta-analyses showing little association for specific types of abuse (childhood sexual abuse) and SH across studies (Klonsky & Moyer, 2008). The current study found a significant association between

experiencing any type of abuse (sexual, physical or emotional) and engagement in NSSI. The current study also found that participants who reported experiencing more than one type of abuse had a higher likelihood of engagement in NSSI. The results on SH and abuse appear to be replicated in other findings, for example; Curtis (2016) and Madge et al., (2011) but are counter to other studies such as Klonsky & Moyer (2008). However, in the current study it may be that participants engaged in NSSI before they experienced each abuse given that the age of each abusive experience could not be calculated in each instance in the logistic regression analyses. To mitigate the former, the current study did investigate the type of abuse in relation to first engagement in NSSI. The results found that the age at the first experience of sexual or physical abuse was significantly associated with the age at the first engagement in NSSI. What the results further showed, was that the majority of participants experienced sexual or physical abuse, before first engaging in NSSI. The latter gave importance details as the direction of the relationship between NSSI and types of abuse, with abuse preceding NSSI in most of cases. Further explorations of this relationship are provided in sections below.

The current study also investigated suicidality and abuse. The results indicated that the more types of abuse a participant experienced increased the odds of also experiencing suicidality. As discussed by Curtis (2016), LeBouthillier et al. (2015) and Walsh et al. (2020), there remains a clear relationship between types of abuse and suicidality. There appeared to be an accumulative effect, where experiencing more types of abuse increased odds of suicidality for participants. In fact, individuals who reported experience emotion, sexual and physical abuse were over 12 times more likely to experience suicidality. Interestingly, a similar finding by LeBouthillier et al. (2015) has been reported. However, LeBouthillier et al. (2015) found that the likelihood of suicidality was only increased when individuals experienced PTSD because of the abuse, compared to individuals who experienced abuse but

did not develop PTSD symptoms. The former brings to the fore an interesting hypothesis regarding what might mediate the relationship between abuse and suicidality.

Other Adverse Life Events, NSSI and Suicidality

As Kessler et al., (2017) suggested, experiencing a traumatic event is not uncommon, with 70.4% of their sample reporting exposure to at least one traumatic event in their lifetime. Kessler et al. (2017) reported that a common traumatic event that 34.1% of their sample experienced was the traumatic death of a loved one. As explained by Kristensen et al. (2012), suicide is considered a traumatic death, in that it is generally considered violent, and shocking.

In the current study, the adverse life events which significantly predicted engagement in NSSI was experiencing the suicide of a friend or acquaintance. These results partially reflect international literature (for example, Portzky et al., 2008). However, unlike the extant literature, Portzky et al. (2008) did not find a positive association between parental divorce, death of parent or sibling, direct or witnessed trauma, the suicide of a family member and NSSI (Madge et al., 2011). The current study found no association between directly experiencing or witnessing a traumatic event/s as risk factors for engagement in NSSI or experiencing suicidality. The latter result would run counter to existing literature on trauma and engagement in NSSI (for example; Dyer et al., 2009; Sacks et al., 2008). One possible explanation for our result may be the sample sizes. For example, Portzky et al. (2008) had almost 9000 participants within their study, whereas the current study had just over 300. It may also be a socio-cultural effect, whereby individuals from New Zealand experience different socio-cultural risk factors for engagement in NSSI, than other countries, an effect that has been found in a study by Portzky et al. (2008). Further explanations of these results are expanded on below.

Participants in this research were significantly less likely to report NSSI engagement if they had experienced a parent's death (not to suicide). The former result has also been found in other research (for example; Madge, et al., 2011). This is possibly because an individual who experiences a loved one's death (natural or expected) does not experience the same extent of psychological distress as those who experience the violent death of a loved one (Kaltman & Bonanno, 2000). Moreover, the non-violent sudden death of a loved one is unrelated to experiences of depression and PTSD symptoms, compared to those who were bereaved by the sudden and violent death of a loved one (including suicide) (Kaltman & Bonanno, 2000).

There is a general consensus across much of the literature that experiences of abuse constitute traumatic events (Dyer et al., 2009; Kessler et al., 2017; Sacks et al., 2008). Therefore, the current study yielded an unexpected finding, where witnessing or experiencing traumatic event did not increase the odds of engagement in NSSI. To elaborate, the current research found for the NSSI category, 34 reported experiencing direct trauma and 37 reported witnessing a traumatic event. In the non-NSSI category, direct trauma was reported by 34 participants and witnessed trauma, reported by 44 participants. These results, therefore, showed that around half the participants reported experiencing or witnessing trauma and engaging in NSSI. The other half of participants had experienced or witnessed trauma has not engaged in NSSI or experienced suicidality. A possible explanation for this unexpected result may relate to the participant's constitution, social support or other individual coping strategies (Garisch & Wilson, 2015) that affected them differently following the event.

The current study found an association between experiencing suicidality and the death of a family member, friend or acquaintance to suicide. Kristensen et al. (2012) also found that individuals who had experienced the death of a loved one to suicide had higher prevalence rates of also experiencing suicidality. The significance of the relationship between a loved

one's death and suicidality may be explained by the complicated grief that can come when a loved one suffers what is considered a violent death (Kristensen et al., 2012). Kristensen et al. (2012) reviewed the literature and found that after the sudden loss of a loved one to a violent death (i.e., suicide, homicide and accidents) many individuals experience complicated grief (or prolonged grief) as well as mental health difficulties such as post-traumatic stress disorder and major depressive disorder. Thus, the sudden violent loss of a loved one has on a significant impact on an individual's mental health and subsequently, may cause an increase of suicidality. Further research has shown that immediately following the death of a loved one to suicide, family members of the deceased experience feelings of shame, blame and guilt initially following the incident, with an excess of these feelings are relating to various physical and mental health difficulties (Spillane et al., 2018). Often the stress and sadness felt were also precipitated by the above difficulties. An alternative hypothesis is explored below in the acquired capability paragraph.

The other significant result within the current study relating to suicidality and adverse life events was that individuals who experienced direct trauma had lower odds of experiencing suicidality. This result was surprising, as it did not align with information found in previous literature (for example; Sacks et al., 2008). Several possible explanations for this result may relate to the nature of the survey. For example, the definition used to describe a traumatic incident gave an example of accident, war or death. The lack of detail in the definition of what constitutes a traumatic event may have led to an underestimation or overestimation (Peytchev et al., 2010) of the phenomena among some participants. In particular, for participants who had experienced abuse (as significant abuse was not included in the examples of what a traumatic event might constitute). The placement of the questions may also have influenced the responses given (Dolnicar, 2013). For example, the question on sexual abuse was directly before the life events questions. It may be that participants found

the trauma-related questions similar to or related to the previous question on sexual abuse. An alternate explanation, unrelated to the survey components, may be that traumatic events did not influence engagement in NSSI, for participants in this socio-cultural context, in the same way, it may in other cultural contexts (Portzky et al., 2008).

Acquired Capability for Suicide

The theory of acquired capability for suicide (Joiner, 2005) was measured by analysing various life events that were widely considered in the literature to be physically or emotionally provocative in nature (Joiner et al., 2009; Madge et al., 2011) possibly to the extent that an individual's exposure habituates them to the fear of death (Joiner et al., 2009). In the current study, there may be evidence favouring the theory of an acquired capability (see; Joiner, 2005). First, the current study found a significant association between engaging in NSSI and experiencing suicidality. There was 65.9% of the NSSI sample, who also indicated they had experienced suicidality. It may be that over time individuals need to engage in more severe forms of NSSI to obtain the desired effect or outcome (Walsh & Rosen, 1988). Moreover, as the individual engages in repetitive SH, they may become habituated to pain as well as decrease their fear of death and thus increase their capacity for suicide (Joiner, 2005; Pennings & Anestis, 2013).

Second, the current study found that as participants engaged in more NSSI, the odds of suicidality increased. As shown in the results, participants who had engaged in NSSI more than six times, had a higher likelihood of suicidality, than participants who had engaged in NSSI only once. Participants who engaged in NSSI over 50 times were 15 times more likely to experience suicidality than participants who had engaged once. These results may suggest, as hypothesised by Joiner et al. (2009) that the more frequent engagement in NSSI the more an individual may lessen their fear of death and become accustomed to physical pain, thus increasing suicidality.

Third, the current research found that participants who experienced a family member, friend or acquaintance's death to suicide had higher odds of experiencing suicidality themselves. These results replicated results from other research in this area (for example, Brown et al., 2000). It may also be that suicide is normalised, and thus more considered as an option, following the death of a loved one to suicide (Pitman et al., 2017). Pitman et al. (2017) also outlined that individuals may identify with the deceased or have an increased awareness of their own vulnerabilities they shared with the deceased. The former may serve to question individuals' beliefs on what safeguards them from engaging in suicidal acts.

Last, the current research found that the more types of abuse a participant experienced, the odds of suicidality increased. It appears that in the presence of various physical and/or emotional pain, participants' thoughts or acts of suicide increased. A potential explanation could be that an accumulative effect of distressing events led to the habituation of physical and/or emotional pain and thus increased acquired capability to suicide.

Motivations and Functions of NSSI

Functions

The most commonly endorsed functions of NSSI were related to intrapersonal functions. These were functions related to decreasing unwanted emotions or increasing sensations or emotions (92.7% of the sample endorsed these functions). This finding appears to be substantially higher than that found in Taylor et al. (2018) reported 63-78% of participants endorsed intrapersonal functions. However, other literature has reported similar results to the current study, for example, Turner et al. (2012) reported that 98.2% of their participants reported emotional regulation strategy as one of the functions of NSSI.

Using the four-factor model (Nock & Prinstein, 2004) to examine the results in Table 8, show that the most commonly endorsed functions provide automatic negative reinforcement (37.1-64.5%). Next, up to 57.3% endorsed the function 'to change my

emotional pain into something physical’ which relates to automatic positive reinforcement. Moreover, there were 89.5% of the overall sample who endorsed automatic positive reinforcement functions. Interpersonal functions, such as ‘to distract me from other problems or tasks’ were less endorsed. There were 15.3% of participants who reported to communicate with others as a function, showing positive social reinforcement. As mentioned above, other studies have shown mixed findings for interpersonal (social) and intrapersonal (automatic) functions. A further example by Lloyd-Richardson et al. (2007), found that 22-28% of participants endorsed automatic functions of NSSI and 19-31% endorsed interpersonal functions of NSSI. Conversely to Lloyd-Richardson et al. (2007), Nock and Prinstein (2004) found that intrapersonal functions, of both positive and negative automatic reinforcement, were more common than interpersonal functions.

Other specific functions included in this analysis were the uncontrollable urge to NSSI, and NSSI as suicidal, or counter suicidal act. A minority of participants reported engaging in SH to commit or practice suicide (Table 8). However, 22 individuals did indicate that NSSI was a way to avoid committing suicide. There were 17.7 % of the overall sample who indicated at some point the function of their engagement in NSSI was to block, stop or halt suicidal attempts. The latter result is an important finding, potentially for mental-health clinicians. When clinicians seek to remove NSSI behaviours as a coping strategy, care needs to be taken to ascertain the function (Yates, 2002). Seeking to eliminate NSSI behaviour, when it is a current strategy for avoiding suicide, may, of course, have more adverse consequences more so than NSSI itself, if the individual does not have other effective ways of coping (Kraus et al., 2020). Ultimately, such decisions would require cautious and thorough consideration of the function the NSSI serves for the individual, and how this would inform appropriate and thorough treatment and safety planning (Yates, 2002).

Motivations for First Engagement

The current study showed that the most commonly reported motivations for first engaging in NSSI were feeling upset, or angry at oneself and accidentally discovering it. The least endorsed motivations for beginning NSSI were wanting to shock or hurt someone, being drunk or high and it works for celebrities. Some of these findings appear similar to prior literature on motivations of NSSI. For example, as Whitlock et al. (2011) found, the least likely motivations for first engaging in NSSI in a large sample of college students were being drunk or high or wanting to shock or hurt someone. Similarly, being angry at oneself or upset were the most likely recorded responses to initial motivation to NSSI in Whitlock et al., (2011), Fitzgerald and Curtis (2017) and the current study. These appear to both be motivations of emotional regulation, which is commonly cited in the literature to be the primary function of NSSI (Garisch & Wilson, 2015).

Interpersonal Motivations and Functions

Peer and Social Influence or Contagion. In the current study, peer influences were endorsed by a smaller percentage of the participants than those who endorsed emotional regulation functions of NSSI. Of the whole sample, there were 11 participants to reported engaging in NSSI due to peer influence. This result runs counter to that found in some literature on the influence of peer groups on adolescent identity and behaviour (for example; Heilbron & Prinstein, 2008). One explanation counter to Heilbron & Prinstein, (2008) could be that although motivations for trying NSSI may be peer influence, some cases may not solely focus on fitting in or identity formation.

Evidence to support the theory of contagion was found in a minority of this sample. Those who endorsed a motivation for NSSI which related to social contagion, were between three to eight participants for each motivation listed above. This result was interesting, as it appears to be counter to the research by Curtis (2017). In individual interviews with New

Zealand women, there was evidence for social contagion for the majority of the sample. Although, there were participants who endorsed social motivations and functions for NSSI. There may remain significant social risk factors for engaging in NSSI, particularly for the initial motivation of engagement, for a minority of individuals (Turner et al., 2012).

Social Communication an Initial Motivation and Function. Similar to other social motivations and functions mentioned, a minority of participants endorsed being motivated to first engage in NSSI for social communication reasons. Specifically, under a quarter of participants (22%) reported the motivation of their NSSI was either to shock or hurt someone; in the hope that someone would notice them (or their distress); or they were angry at someone else. It was also found that most participants who did endorse a social function also endorsed emotional regulation strategies. It may be that, as Zetterqvist (2017) revised, the motivations of SH are related more specifically to psychological distress, and the need to communicate this distress to others.

One of the least endorsed functions of NSSI was those who engaged in NSSI to punish others, with 4% of the overall sample indicating this function. The latter result is similar to other research (Tatnell et al., 2014) which has found that punishing others is one of the less common functions reported for NSSI.

Intrapersonal Functions and Motivations

As discussed above, of those participants who indicated other intrapersonal functions (not emotional regulation) for engaging in NSSI or interpersonal functions, many participants did endorse an emotional regulation function alongside this. There may be many reasons why this participant sample endorsed emotional regulation strategies of NSSI over and above other functions. First, a significant number of participants reported symptoms of anxiety and depression when they were engaging in NSSI. Research has indicated that individuals experiencing anxiety and depressive disorders have greater difficulties of emotional

regulation compared to individuals not experiencing symptoms of mental illness (Campbell-Sill & Barlow, 2007). Therefore, it may be that the current study's participants had higher levels of experiencing anxiety or depression, which related to the number of participants who endorsed an emotional regulation function of NSSI. As mentioned, in the current study, there were 65.9% of the participants who engaged in NSSI who also indicated experiencing suicidality at some point in their lives. As Brausch and Muehlenkamp (2018) noted in their study, intrapersonal functions were more common among individuals who reported suicidality. This co-occurrence rate may be why emotional regulation functions were endorsed more frequently in the current study than found in Turner et al. (2018), for example.

There was just under half (46.0%) of the current sample who reported self-punishment as a function of their engagement in NSSI. This rate appears to be higher than that found in other literature (for example; Turner et al., 2012). Self-punishment is explored further in the paragraphs below.

Functions and Abuse

The current results showed almost no significant associations between functions of NSSI and experiences of specific types of abuse. This result was surprising, as previous literature suggests specific types of abuse, might relate to more specific functions of NSSI (see for example; Curtis, 2016). For example, Curtis (2016) found that for almost all of the individuals she interviewed, experiences of sexual abuse related to functions of emotional regulation and social communication functions of NSSI. However, other functions such as gaining a sense of empowerment that Curtis (2016) commented on in her study, were not included in the current study.

Most participants endorsed emotional regulation functions, regardless of the adverse life experience/s they had encountered. As Yates (2002) described, adverse life difficulties, such as traumatic experiences can impact a young person's ability or chances to learn to

manage unwanted or unpleasant emotions more effectively. Learning to communicate distress and cope with unpleasant emotions as a child and adolescent are two factors that are heavily shaped by parental or caregiving figures (Yates, 2002). When individuals experience emotional abuse or neglect, for example, by way of emotional deprivation, it may impede on one's ability to learn other coping strategies for managing difficult emotions (Titelius et al., 2018). In fact, an absence of emotional support and high criticism from parental figures as a child has been shown to relate to high self-criticism among adolescent samples (Baetens et al., 2015). Moreover, self-criticism has been found to mediate the relationship between emotional abuse and engagement in NSSI (Baetens et al., 2015; Glassman et al., 2007). Nock (2009) discussed that NSSI can function as a form of self-punishment, particularly for individuals who have been exposed to high criticism or abuse. However, neither functions relating to emotional regulation or self-punishment were significantly associated with emotional abuse in the current study. Instead, emotional abuse was significantly related to NSSI as a way to commit suicide. It may be that individuals in this sample who had reported experiencing emotional abuse had high levels of self-criticism, with a suicidal act being the ultimate form of self-punishment. As discussed by Joiner et al. (2009), two components of the interpersonal theory of suicide are lack of social connectedness/feeling accepted by others and feeling like a burden. Incidentally, both the former components have been found to be associated with emotional abuse more than physical or sexual abuse (Smith et al., 2018). Furthermore, the current study's results may give weight to the theory of acquired capability (discussed in the sections above), surrounding repeated exposure to provocative events that are not necessarily physical, and which may increase one's capability to engage in a suicidal act (Joiner et al., 2009).

Unlike Weierich and Nock (2008) found, the current study did not find any significant associations between the functions of NSSI and sexual abuse, or functions that may relate to PTSD symptoms of dissociation. Nor did the current study find that traumatic experiences increase the likelihood of NSSI. A variety of other studies have highlighted different mediating factors, which may relate to functions of NSSI for individuals who have experienced physical or sexual abuse. For example, a study by Smith et al. (2015) highlighted the role specific types of self-criticism (such as self-disgust) has on mediating the relationship between sexual abuse and engagement in NSSI. Another study by Swanell et al. (2012) found that self-blame (another component of self-criticism) partially mediated the relationship between physical abuse and NSSI engagement. However, the current study found no significantly associated functions of NSSI and experiences of either sexual or physical abuse.

NSSI and Suicidality

As mentioned, over 65% of the NSSI sample also expressed suicidality. However, there were only 10.5% of participants who indicated NSSI to attempt or to commit suicide as one of the functions. These results may indicate, as Curtis (2016) suggested, that NSSI and suicidality exist within a cyclic pattern, rather than linear of least severe NSSI to most severe. The current study found that relationships exist between risks of suicidality and NSSI. Although, this result is not unique, in that NSSI functions as a risk factor for suicidality and thus overlap is to be expected (Fox et al., 2015). For example, in the current study, findings showed the more experiences of abuse an individual endures, and the experience of death by suicide of a friend the higher likelihood of engagement in NSSI as well as suicidality. Interestingly, the suicide of a family member was only a risk factor for suicidality in this sample. It is clear from the similarities in the risk factors that NSSI and suicidality remain related phenomena (Fox et al., 2015). However, over 35% of the sample had not experienced suicidality, despite engaging in NSSI. Future research may need to focus on the factors that

differentiate individuals who engage in NSSI and do not experience suicidality (Andover et al., 2012), to investigate if there are particular protective factors that could be used in preventative measures for suicide, such as early intervention when engagement in NSSI is present. These are explored further below in the future research section.

Strengths

There are several strengths of the current study. The current research is the first replication of the study by Fitzgerald and Curtis (2017). Research on NSSI in New Zealand is growing but appears to be still limited. The current research will add to the body of literature, with a New Zealand population. Previous studies have tended to focus specifically on adolescents or young adults' experiences of NSSI (for example; Fleming et al., 2014; Garisch & Wilson, 2015; Garisch et al., 2017), the current research was conducted with participants above 18 years of age, thus providing valuable insight into NSSI behaviours for an older populace. The use of an anonymous survey has been found to increase reporting of thoughts, feelings and behaviours (Warner et al., 2011). Also, the use of a behavioural checklist for the measurement of NSSI has been found to capture the percentage rates more accurately than dichotomous SH measures (Kapur et al., 2013).

Limitations

There are several possible limitations to the current research. First, non-randomly sampled research has the possibility of self-selection bias, which may have inflated the overall prevalence rates for NSSI and suicidality in this sample (Heckman, 1990). Consequently, non-random sampling, the current study has limited ability to generalise to the wider New Zealand population, prevalence rates. A second limitation may be the smaller sample size than anticipated, for example, small numbers across ethnic groups, and limited numbers for in-depth analysis of depression, anxiety and stress in relation to NSSI.

Consequently, low participant numbers can reduce statistical power when running comparison analyses (Hackshaw, 2008).

There are some limitations regarding the survey, as well. These limitations include the length of the survey. Given the level of detailed questioning, the survey length had an average completion time of around 20 minutes. Research has shown that the length of a survey in research studies impacts participant drop-out rates (Hoerger, 2010). For example, Hoerger (2010) found that over 13% of participants will drop out of a survey after 100 responses that limit the depth of analysis able to be run. In the current study 304 participants completed the first question and 88.5% continued to complete the survey.

Another is the subjective dichotomous measure of emotional, sexual and physical abuse, instead of an objective measure may have led to under or over-reporting of these constructs (Kapur et al., 2013). Furthermore, objective measures may have been more reliable, given that individuals who experience abuse, identify the acts as abuse, as is the case for sexual abuse for example (Roosa et al., 1998).

There may also be some limitations with the analyses of the current research. For example, the age of different life difficulties was not included in this survey which may have limited the reliability of analyses regarding life difficulties. This is because there was no way to ascertain whether life difficulties were experienced before or after NSSI or suicidality.

Next, the severity, duration and frequency of specific abuse types were not recorded in the current study. As Klonsky and Moyer (2008) commented, the severity of the abuse may better predict the risk of SH than abuse alone.

Last, as suggested by Brunner et al. (2013) the intent for SH may differ between episodes, with the intent of each episode not captured in this survey (participants could select multiple intentions/motivations/functions of NSSI, but this was not for each specific act of NSSI).

Implications and Future Research

Clinical Implications

There are several clinical implications of the current research. First, the current study provides valuable New Zealand information on the demographic risk factors for NSSI and suicidality for a non-adolescent population. Information on risk factors may provide clinicians with useful insight when ascertaining the risk of self for individuals who present to health services (Fox et al., 2015). The consideration of cultural implications, particularly, Pacifica peoples presenting to health services also needs to be considered. As shown, there are lower rates of hospital admissions for NSSI among the Pacifica community compared to New Zealand European and Māori (Ministry of Health, 2015). However, engagement in NSSI appears to be high in the current study, and other studies (Fa'alili-Fidow et al., 2016). The latter may suggest that NSSI remains a hidden behaviour among some populaces, more than others (Hauber et al., 2019). Therefore, it is imperative that clinicians and health practitioners screen appropriately for NSSI, with consideration of the cultural context and understanding of the behaviour (Tiatia-Seath, 2014). Furthermore, it may be improving healthcare for Pacifica peoples in New Zealand, such as access to culturally responsive health care, is a way forward, as suggested by (Wright & Hornblow, 2008).

Second, the current study highlighted that a younger demographic of individuals might be engaging in SH. The former highlights the importance of appropriately screening all age groups presenting to mental health services for risk of NSSI (Yates, 2002). Furthermore, the current study reported that individuals who engage in NSSI younger tend to engage in more acts of NSSI than those who first engaged when they were older. As mentioned by Whitlock et al. (2013), repetitive engagement in NSSI is the strongest indicator of future suicide. As such, this highlights the importance of health services to provide the appropriate resources to individuals engaging in SH (Fox et al., 2015). Preventing the habituation to

NSSI behaviours may therefore halt an individual's capability for suicide (see; Joiner et al., 2009). Moreover, given the evidence for emotional regulation as the primary function of NSSI, and a young cohort engaging in NSSI behaviours, preventative strategies aimed at establishing adaptive coping skills for uncomfortable emotions may prevent incidents of NSSI (Robinson et al., 2019).

Theoretical Implications

Two theoretical implications of this research include the evidence found towards the theory of an acquired capability of suicide (Joiner, 2005; Joiner et al., 2009) and the strength of peer influence theories on NSSI (Heilbron & Prinstein, 2008). The current study found potential for the acquired capability towards suicide when individuals experience several difficult life events. Experiencing multiple types of abuse was associated with NSSI. This result shows that potential habituation from experiencing harm put individuals at risk for experiencing less fear of death, as shown in serious consideration of suicide, or suicide attempt. The current study adds to the literature on acquired capability (see; Joiner, 2005) and extends it to include other life difficulties, including the suicide of someone close. More research may be needed in the area of experiencing provocative life events that may serve to habituate individuals that lessen their fear of death (Joiner et al., 2009).

Another theoretical implication of this research is the lack of evidence to support peer influence theories of NSSI. Interestingly, the current study found that fewer individuals endorsed NSSI motivation and function as having social reasons, particularly concerning experiencing wanting to be part of a group, or because their friend engaged in NSSI. This result runs counter to the information found in current literature (for example; Curtis, 2016). However, this does add to the information regarding the motivation and function of NSSI as encompassing many interlinking factors, including social functions, but more often relating to a form of emotional regulation. The current results add to the information already available in

current theory that NSSI generally serves as a function of emotional regulation (Chapman & Dixon-Gordon, 2007; Klonsky & Glenn, 2009; Laye-Gindhu & Schonert-Reichl, 2005; Nock & Prinstein, 2004; Rodham et al., 2004; Turner et al., 2012). However, is not necessarily the sole function of NSSI for all individuals (for example; Taylor et al., 2018).

Future Research

The current study revealed several important areas for future research, both within the clinical and theatrical realm. Firstly, this research highlighted a clear need for further understanding and research within Pacifica population regarding NSSI. There is an apparent lack of research in this area, and, the risk factors for Pacifica populations and NSSI, from a Pacifica perspective (Dash et al., 2017).

Another important expansion on demographics concerning NSSI, may be studies involving younger individuals, for which there is also a severe lack of research (for example; Siminoni et al., 2017). The current study highlighted a significant number of individuals who engage in NSSI behaviours before the age of 10 years old. Future research could aim to investigate each age group specifically. Furthermore, a focus on longitudinal studies in this area, as there appears to be a lack of, particularly for the New Zealand population (Coopersmith et al., 2017).

Third, given the results that depression, anxiety and stress (or distress) has in relation to engaging NSSI, and given the information of the association and predictive ability for experiencing types of abuse and engaging in NSSI or suicidality, future research should focus on the nature of the relationship between all the above variables. For example, the mediating role psychological distress, emotional dysregulation or poor social communication (Nock, 2009) may have on experiences of abuse and subsequent engagement in NSSI. The former may be an important area to research further within the New Zealand population, and which

could have practical clinical implications for prevention and treatment strategies in this context.

Last, a focus on protective factors for engagement in NSSI and suicidality could prove useful for future studies to investigate. A study on protective factors may highlight areas that clinicians could target for either preventive strategies to NSSI (Valencia-Agudo et al., 2018) or as skills to be taught in a therapeutic setting for individuals experiencing NSSI (Gonzales & Bergstrom, 2013). Alternatively, research into what prevents individuals from experiencing suicidality, when currently engaging in NSSI (what differentiates risk factors between suicidality and NSSI) Andover et al. (2012) might prove a useful topic to research.

Conclusions

Non-Suicidal Self-Injury (NSSI) appears to be a complex and unstudied topic within the New Zealand literature. The risk factors for NSSI have been studied to some degree (for example; Garisch & Wilson, 2015) but replication research appears primarily absent in New Zealand. Individual, social and environmental risk factors for both NSSI and suicidality within the socio-cultural context of New Zealand is, therefore, an important area of research. Furthermore, investigating the functions and motivations of NSSI among individuals may have the benefits of fuelling further research which may help develop therapeutic interventions (Yates, 2002) or preventative strategies (Andover et al., 2012) for NSSI and suicidality in a New Zealand context. Thus, this research's overall objective was to investigate the phenomena of both NSSI and suicidality in a New Zealand community sample. The current study first replicated Fitzgerald and Curtis' (2017) study of NSSI in a university population. Secondly, the current study was an extension and exploration of risk and functions of NSSI and suicidality. Using an anonymous survey adapted by Fitzgerald and Curtis (2017), the following conclusions were drawn from the data.

Consistent with previous literature on the topic, people most at risk of NSSI were individuals who are in their adolescent or young adult years, and who identify as female (also see: Fitzgerald & Curtis, 2017). Furthermore, the current study showed individuals who identify as bisexual, questioning or another sexual orientation that is not exclusively heterosexual or gay report greater incident of engagement in NSSI. Interestingly, this research has highlighted that those individuals identifying as gay/lesbian were no more at risk of NSSI than heterosexual populations. The current study's result may have highlighted a shift in the social acceptance of homosexuality (Hertlein et al., 2016) which may positively affect individuals who identify as exclusively gay/lesbian. The effects of experiencing less social stigma and more social acceptance may have a positive effect for such individuals, in that their mental health and engagement in NSSI are lower than previous studies (for example; Meyer, 2003) have found.

Unlike previous findings from Fitzgerald and Curtis (2017), the Pacifica individuals in this sample have the highest rate of NSSI as compared to the remaining individuals of another ethnic affiliation. This result is not consistent with hospital statistics on NSSI (Ministry of Health, 2015) and may suggest higher community engagement in NSSI than previously thought for Pacifica populations. This result may also highlight the need to have more Pacific focussed research studies and community settings for which Pacifica peoples can access culturally responsive healthcare (Dash et al., 2017). It is noted here, that due to small samples sizes and self-selected bias, the above results are interpreted only within the current study, due to lack of generalisability.

As hypothesised, participants who have recently engaged in NSSI, reported experiencing high levels of depression, anxiety and stress as measured as constructs from the DASS21. These results were consistent with the international literature on these constructs (for examples, (Chartrand et al., 2012; Miranda-Mendizabal et al., 2019; Moller, Tait &

Byrne, 2012; O'Connor et al., 2009). It further reiterates the importance of health care professionals to be cognisant of NSSI risk (Fox et al., 2015) when encountering individuals who present with depression and anxiety symptoms or are experiencing high levels of stress.

The current study found that individuals who experience suicidality and engage in NSSI have higher rates of experiencing sexual, physical and emotional abuse than those who do not experience either. Similar results have been found in the literature (for example; Curtis, 2016; Madge et al., 2011).

Although most of the sample indicated experiencing both suicidality and engagement in NSSI, there is a considerable amount (around 35%) of individuals who engaged in NSSI but never experienced suicidality. Furthermore, there were common risk factors such as abuse, between suicidality and NSSI. However, there were also risk factors such as the suicide of a family member, which only increased the likelihood of suicidality and not NSSI in the current study. These findings suggest that while NSSI and suicidality remain related, they are distinct phenomena, with potentially different risks factors (also see; Whitlock et al., 2013).

Next, the current study found evidence to support the acquired capability theory (see; Joiner, 2005). The results found that the more types of abuse an individual experienced, or particular life difficulties such as the suicide of a friend or family member, increased the likelihood of suicidality for those participants. It gives evidence for the potential accumulative effect that adverse life events have on an individual, and how this may habituate them to physical or emotional pain, and/or decrease their fear of death. Furthermore, the current shows that as the frequency of NSSI increases, the likelihood of suicidality also increases. This result gives further evidence for acquired capability.

The functions and motivations of NSSI were shown to vary within this sample. Despite this, most participants (over 90%) endorsed emotional regulation as a function of

their NSSI. This result was congruent with current literature on the topic of emotional regulation and NSSI (Chapman & Dixon-Gordon, 2007; Klonsky & Glenn, 2009; Laye-Gindhu & Schonert-Reichl, 2005; Nock et al., 2009). The results also show that the majority of participants reported the function as a way to stop unwanted emotional states. The latter shows that emotional regulation interventions are an appropriate target in many cases, for clinicians working with individuals engaging in NSSI. According to Taylor et al. (2018). The functions of NSSI were found to not significantly relate to any types of abuse, other than emotional abuse and the function of suicide attempt. The former results show that although there are common risk factors for NSSI, there remains no clear one pathway to NSSI engagement. From these studies results, the functions of NSSI remains idiosyncratic, with a multitude of different individual, social and environmental influences (also see; Garisch & Wilson, 2015) that may contribute to the motivation or maintenance of NSSI for particular individuals.

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Appendices

Appendix A

Study Survey Components

Health and Well-Being Survey.

Welcome and thank you for taking part in the Health and Well-Being Survey. This research has been approved by the University of Waikato Human Research Ethics Committee (Health). Email: humanethics@waikato.ac.nz.

This survey will help shed light on mental health issues students face and better understand how campus services can be improved to help meet students' needs. It will ask you about a variety of mental health issues such as peer and family relationships, depression and anxiety, self-injury and getting help for problems. The information gathered will be analysed (anonymously) and written up for a Masters' Thesis, as well as possible publication in academic journals and conference presentations.

If you have any further questions about the nature of this research please email myself (Charlotte; Masters student) at crr9@students.waikato.ac.nz, or my Masters Research Supervisor Dr Cate Curtis: cate.curtis@waikato.ac.nz

Before you continue please be aware: This survey addresses a number of mental health topics that may be difficult to think about. Please keep in mind you may choose to not answer a question or questions and may stop your participation at any time by simply closing your web browser. In addition, attached to the invitation email, at the beginning and at the completion of your participation in this online survey, you will find a list of names and contact details for agencies who can provide you with help and information about any mental health concerns you may have.

Confidentiality: It is up to you whether you give us any identifying information; if you prefer not to, you are still very welcome to complete the survey. Please note that it will not be possible to withdraw your information later, because it will not be possible to identify it. There are two reasons why you might choose to give us your contact information (such as your first name and email or phone number):

1. To be entered into the prize draw. We would use your name and telephone number/ email address only to alert you if you had won a prize.
2. For the University of Waikato students only: To gain course marks for semester B papers. Students in some Waikato psychology papers are able to have 1% credited; these include PSYCH204 and PSYCH211. Please note that you cannot enter the draw and also receive a mark, only one or the other.
3. If you indicate you would like a summary of the research findings.

There is a screen near the end of the survey where you can give your details if you decide to do so.

To complete this survey it will take you about 15 minutes on average, and range between 5-30 minutes. Depending on your responses, any questions that aren't relevant to you will be skipped.

By clicking the next box below, you are indicating that you have read the information above and are ready to begin.

Please select the most appropriate option for you

- ☐ I'm not a student at all
- ☐ I'm a student at Waikato
- ☐ I'm a student at The University of Auckland
- ☐ I'm a student at Victoria University of Wellington
- ☐ I'm a student at Massey University
- ☐ I'm a student at The University of Canterbury
- ☐ I'm a student at Lincoln University
- ☐ I'm a student at Otago University
- ☐ I'm a student at a different institution than listed above.



Do you want to receive 1% course credit for any of the following papers?

PSYCH211

PSYCH204

- ☐ Yes
- ☐ No/Does not apply to me



If you are wanting to receive 1% bonus course credit, but do not wish to complete the survey you can opt for answering a text-based exercise instead. **Note: the answer will need to be correct to receive the 1% bonus course credit.**

- ☐ I wish to do the survey to receive my 1% bonus course credit
- ☐ I wish to do the text-based exercise to receive my 1% bonus course credit

Are you an international student?

- ☐ Yes
- ☐ No



<h1 style="margin: 0;">DASS21</h1>					
Name:		Date:			
<p>Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you <i>over the past week</i>. There are no right or wrong answers. Do not spend too much time on any statement.</p> <p><i>The rating scale is as follows:</i></p> <p>0 Did not apply to me at all 1 Applied to me to some degree, or some of the time 2 Applied to me to a considerable degree, or a good part of time 3 Applied to me very much, or most of the time</p>					
1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Note. Copy right information: The DASS21 is public domain and therefore permission is not needed to use it. For additional information please visit www.psy.unsw.edu.au/dass. A computerised version of the DASS21 depicted above was used in this survey.

What is your age?

- ☐ 18 and under
 - ☐ 19-20
 - ☐ 21-22
 - ☐ 23-25
-

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Or, please specify

How would you describe your ethnicity? (Please check all that apply)

- ☐ NZ-born European / Pakeha
- ☐ NZ Māori
- ☐ Pacific Island
- ☐ European
- ☐ Asian
- ☐ Indian
- ☐ Americas
- ☐ African
- ☐ Middle Eastern
- ☐ Other (Please specify)

What year are you studying in?

- ☐ Bridging course/ Certificate of University Preparation
- ☐ 1st year undergraduate
- ☐ 2nd year undergraduate/ mostly 200-level papers
- ☐ 3rd year undergraduate/ mostly 300-level papers
- ☐ 1st year of postgraduate study (e.g., PG Dip, PG Cert, Honours, first year of 180/240 point Masters)
- ☐ 2nd year of postgraduate study (e.g., continuing 180/240 point Masters, 120 point Masters)
- ☐ PhD or other higher degree
- ☐ I am not studying



What faculty/school are your studies within?

- ☐ Arts or Social Sciences
- ☐ Science and Engineering
- ☐ Education
- ☐ Law
- ☐ Computing and Mathematical Sciences
- ☐ Management
- ☐ Maori and Indigenous Studies
- ☐ Medical Studies
- ☐ Other (please specify)

Where do you currently live?

- ☐ On campus hall of residence
- ☐ On campus cottage/house
- ☐ Off campus/living alone
- ☐ Off campus/flatting/sharing
- ☐ Boarding- with a family
- ☐ With own partner/family
- ☐ With parents or other family
- ☐ Other (please specify)

What is your current relationship status (choose which most closely fits to you) ?

- ☐ I am single
- ☐ I am involved in uncommitted dating
- ☐ I am in a committed relationship
- ☐ I am in a long-term, committed relationship/married
- ☐ I am separated/divorced/widowed



How would you describe your relationship?

- ☐ Very strong
 - ☐ Strong
 - ☐ Struggling a little
 - ☐ Struggling a lot
-

What is your sexual orientation? (Please check all that apply)

- ☐ Straight (heterosexual)
- ☐ Gay/ Lesbian (homosexual)
- ☐ Bisexual
- ☐ Questioning
- ☐ Or, (please specify)



How often are the following true for you?

	Never true	Rarely true	Sometimes true	Often true	I do not know
I can rely on my family/friends for help if I have a serious problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can open up to my family/friends if I need to talk about my worries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family/friends often make too many demands on me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have a problem or worry, I have at least one family member or friends I feel comfortable talking with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



During the past 30 days, about how often did you feel...

	None of the time	A little of the time	Some of the time	Most of the time
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfied with your life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So depressed that nothing could cheer you up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That everything was an effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worthless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restless or fidgety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy with yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



This set of questions asks about your **past** relationships with family members or legal guardians. Generally speaking, how true are the following traits for the family members with whom you **spent most of your time** while you were growing up?

	Very true	Somewhat true	Unsure	Somewhat untrue	Very untrue	Does not apply
Even though it was hard sometimes, I discussed emotional issues with my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There was usually someone in my family who noticed when I was upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most members of my family shared their emotions- good and bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family was NOT comfortable discussing emotional issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



The following statements describe different ways people feel. Please rate how true each of these is for you.

	Very true	Somewhat true	Unsure	Somewhat untrue	Very untrue	Does not apply
I am usually satisfied with my accomplishments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People have to be excellent at almost everything to be successful these days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very hopeful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that I have a good life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not enjoy many things in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even though things may be tough at times, I think life is worth living	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Have you ever repeatedly... (Please check all that apply)

- ☐ Severely restricted your eating
- ☐ Binged or purged
- ☐ Over-exercised yourself to lose or manage your weight
- ☐ Used laxatives, to lose or manage your weight
- ☐ None of the above



How old were you when you LAST engaged in any of the behaviours listed in the previous questions?

- ☐ 10 or younger
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-50
- ☐ 51 or older



For the next few questions, one standard drink= one 330ml bottle of beer, one 100ml glass of wine, one shot of spirits.

One average, how many drinks do you consume when you socialise in a setting with alcohol?

- ☐ None
- ☐ 1-2
- ☐ 3-4
- ☐ 5-6
- ☐ 7-8
- ☐ 9-10
- ☐ 11+

On how many days did you drink alcohol in the last 30 days?

- ☐ None
- ☐ 1-2
- ☐ 3-5
- ☐ 6-10
- ☐ 11-15
- ☐ 16-20
- ☐ 21+



Think of the occasion on which you drank the most in the past 2 weeks. How many standard drinks did you have? (Skip this question if you did not drink in the last 2 weeks).

- ☐ 1-2
- ☐ 3-4
- ☐ 5-6
- ☐ 7-8
- ☐ 9-10
- ☐ 11+

Have you ever experienced any of the following as a result of your alcohol or other drug use **during the past year**? (Please check all that apply).

- ☐ Had memory loss
- ☐ Been hurt or injured
- ☐ Missed a class
- ☐ Performed poorly on a test or important project
- ☐ Tried unsuccessfully to cut down or stop your use
- ☐ Noticed that it took more alcohol or other drug than it once did to get the desired effect
- ☐ Felt angry or annoyed when someone commented on your use
- ☐ I have not experienced any of the above
- ☐ I did not drink alcohol or use drugs in the last year



Have you ever been deliberately hit or otherwise injured by someone you cared about and/or were involved with (including family members, in a romantic relationship, an acquaintance, or a friend)?

- ☐ Yes
- ☐ No
- ☐ Not sure



How old were you when you were **first** in a physically abusive relationship?

- ☐ 10 or younger
 - ☐ 11-15
 - ☐ 16-20
 - ☐ 21-25
 - ☐ 26-30
 - ☐ 31-35
 - ☐ 36-40
 - ☐ 41-50
 - ☐ 51 older
-

Who was this relationship with? (Please check all that apply).

- ☐ Parent
- ☐ Son / Daughter
- ☐ Sibling
- ☐ Other family member
- ☐ Boyfriend / Girlfriend / Partner / Spouse
- ☐ Friend
- ☐ Acquaintance
- ☐ Work Colleague (Boss or Co-worker)

Have you ever experienced unwanted sexual touching or intercourse, or been forced to engage in unwanted sexual activity because: (Please check all that apply)

- ☐ You were a child and could not stop it
- ☐ You felt pressured by continual arguments
- ☐ A person used some degree of physical force (twisting your arm, hold you down, etc.)
- ☐ A person threatened to use physical force (twisting your arm, holding you down, etc.) if you did not cooperate
- ☐ The other person was in a position of authority or power over you
- ☐ You were under the influence of alcohol or other drugs
- ☐ Other (please specify)

- ☐ I have NOT experienced unwanted sexual touching or intercourse, or been forced to engage in unwanted sexual activity.



How old were you when the above **first** happened?

- ☐ 10 or younger
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-50
- ☐ 51 or older

Have you ever experienced any of the following life difficulties? (Please check all that apply)

- ☐ Death of a parent
- ☐ Death of a sibling or other family member
- ☐ Parental divorce or separation
- ☐ Direct experience with a potentially traumatic event (e.g., accident, war, natural disaster)
- ☐ Witnessed a potentially traumatic event (e.g., accident or death)
- ☐ Attempted or completed suicide of a family member
- ☐ Attempted or completed suicide of a friend or acquaintance
- ☐ None of the above
- ☐ Other (please specify)



Have you ever seriously attempted or considered suicide?

- ☐ Yes
- ☐ No



Have you ever been in a relationship that was emotionally abusive?

- ☐ Yes
- ☐ No
- ☐ Not sure



Who was this relationship with? (Please check any that apply).

- ☐ Parent
- ☐ Son / Daughter
- ☐ Sibling
- ☐ Other family member
- ☐ Boyfriend / Girlfriend / Partner / Spouse
- ☐ Friend
- ☐ Acquaintance
- ☐ Work colleague (Boss or Co-worker)

How old were you when you were **first** in an emotionally abusive relationship?

- ☐ 10 or younger
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-50
- ☐ 51 or Older



Self Injury

The following questions ask about your experiences with intentionally hurting yourself. We know that this can be a difficult issue to talk about. Please note that there are contact details at the end of the survey which you can use if you feel like you want to talk with someone. This information was also attached to the invitation email you received. The information you and other students provide about this topic will be used to help others who intentionally hurt themselves. Thank you in advance for your time and honesty.

Please rate how much you agree with the following statements.

	Agree	Partly Agree	Partly disagree	Disagree
If I were experiencing a difficult emotional crisis at this point in my life, I would be confident that I could find relief in counselling (therapy).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would want to get psychological help if I were worried or upset for a long period of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would want to get psychological help if I were worried or upset for a long period of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A person should work out his or her own problems; getting psychological counselling would be a last resort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal and emotional troubles, like many things, tend to work out by themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



I don't know why people self-injure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-injuring is more common when people do not have money or financial resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who self-injure often have an eating disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find the idea of self-injury horrifying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Those who self-injure are trying to manipulate others with their behaviour	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-injuring, as a behaviour is on the increase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-injuring might make some suicidal people feel better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-injury is quite common especially among certain groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How many people do you personally know of or strongly suspect of intentionally hurting themselves, e.g., cutting, burning, scratching, break their own bones?

- ☐ None
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more



Have you ever done any of the following **with the purpose of intentionally hurting yourself?** (Please check all that apply).

- ☐ Severely scratched or pinched with fingernails or other objects to the point that bleeding occurs or marks remain on the skin
 - ☐ Cut wrists, arms, legs, torso or other areas of the body
 - ☐ Dropped acid onto skin
 - ☐ Created salt and ice burns on the skin
 - ☐ Carved words or symbols into the skin
 - ☐ Ingested a caustic substance(s) or sharp object(s) (e.g., bleach, other cleaning substances, pins etc)
 - ☐ Bitten yourself to the point that bleeding occurs or marks remain on the skin
 - ☐ Tried to break my own bone(s)
 - ☐ Broke my own bone(s)
 - ☐ Ripped or torn skin
 - ☐ Performed self-asphyxiation/strangulation (with the intention of hurting yourself)
 - ☐ I have never intentionally hurt myself in these ways
-

Have you ever done any of the following **with the purpose of intentionally hurting yourself?** (Please check all that apply).

- ☐ Burned wrists, arms, legs, torso or other areas of the body
- ☐ Rubbed glass into skin or stuck sharp objects such as needles, pins, and staples, into or underneath the skin (not included tattooing, body piercing, or needles used for medication use).
- ☐ Banged or punching objects to the point of bruising or bleeding
- ☐ Punched or banged oneself to the point of bruising or bleeding
- ☐ Intentionally preventing wounds from healing
- ☐ Mutilated genitals or rectum
- ☐ Engaged in fighting or other aggressive activities with the intention of getting hurt
- ☐ Pulled out hair, eyelashes, or eyebrows (with the intention of hurting oneself)
- ☐ I have never intentionally hurt myself in these ways

Are there any other ways that you have physically hurt or mutilated your body with the purpose of intentionally hurting yourself?

☐ Yes (Please specify)

☐ No



Have you ever gone to therapy because you intentionally hurt yourself?

☐ Yes

☐ No

☐ Intentionally hurting myself was part of the reason I went but not all of it



Did someone else insist you go to therapy or did you decide to go on your own?

- ☐ Someone else insisted that I go
- ☐ Someone else suggested it, and then I decided that it was a good idea
- ☐ I decided to go myself
- ☐ Other (please specify)

How do/ did you your therapist(s) respond to the information that you intentionally hurt yourself?
(Please check any that apply)

- ☐ They were comfortable with the information
- ☐ They seemed uncomfortable with the information
- ☐ They asked me to sign a 'no harm' contract
- ☐ They only talked about it if I raised it or it came up as part of another discussion
- ☐ They asked me about it even if I did not raise it or it did not come up as part of another discussion
- ☐ It seemed like stopping me from intentionally hurting myself was a goal of therapy
- ☐ They said I would have to stop regular activities (e.g., school, university, employment, playing sport), at least for a while, if I did not stop intentionally hurting myself
- ☐ They said it was okay for me to intentionally hurt myself as a way to cope with really bad feelings and there was nothing else I could do
- ☐ They said it was a coping mechanism and suggested other methods to cope
- ☐ I have talked to more than one therapist about this and they have each handled it differently
- ☐ Other (please specify)

How old were you the **first** time you talked to a therapist about intentionally hurting yourself?

- ☐ 10 or younger
 - ☐ 11-15
 - ☐ 16-20
 - ☐ 21-25
 - ☐ 26-30
 - ☐ 31-35
 - ☐ 36-40
 - ☐ 41-50
 - ☐ 50+
-

If you received therapy for any reason, did you intentionally hurt yourself after finishing therapy?

- ☐ Yes, I did intentionally hurt myself after therapy
 - ☐ No, I completely stopped intentionally hurting myself after therapy
 - ☐ I have seen multiple therapists about intentionally hurting myself and some helped me and some did not
-

In your opinion, how helpful was therapy in helping you to stop intentionally hurting yourself?

- ☐ Very helpful
- ☐ Helpful
- ☐ Somewhat helpful
- ☐ Not at all helpful

What in your experience with therapy (even if your experience with intentionally hurting yourself was not the focus of your therapy) has been **most** helpful in helping you to understand or control intentionally hurting yourself?

What in your experience with therapy (even if your experience with intentionally hurting yourself was not the focus of your therapy) has been **least** helpful in helping you to understand or control intentionally hurting yourself?



I intentionally hurt myself: (Please check all that apply)

- ☐ To cope with uncomfortable feelings (e.g., depression or anxiety)
 - ☐ To relieve stress or pressure
 - ☐ Because it feels good
 - ☐ Because I like the way it looks
 - ☐ A self-punishment or to atone for sins
 - ☐ To help me cry
 - ☐ Because my friends hurt themselves
 - ☐ Because my friends expect me to
 - ☐ To be part of a group
 - ☐ To get a rush or surge of energy
 - ☐ In the hopes that someone would notice that something is wrong or that so others will pay attention to me
 - ☐ To get control over myself or my life
 - ☐ As a way to practice suicide
 - ☐ As an attempt to commit suicide
 - ☐ To feel closer to God
 - ☐ So I do not hurt myself in other ways
 - ☐ To shock or hurt someone
 - ☐ To distract me from other problems or tasks
 - ☐ To change my emotional pain into something physical
 - ☐ To avoid committing suicide
 - ☐ Because I get the urge and cannot stop it
 - ☐ To deal with frustration
 - ☐ To create an excuse to avoid something else
 - ☐ To deal with anger
 - ☐ Because of my self-hatred
 - ☐ Other (please specify)
-

The following questions ask a little more about your experiences with intentionally hurting yourself. We know that this can be a difficult issue to talk about. Please note that there are contact details at the end of the survey which you can use if you feel like you want to talk with someone. This information was also attached to the invitation email you received. The information you and other students provide about this topic will be used to help others who intentionally hurt themselves. Thank you in advance for your time and honesty.

When was the **last time** you intentionally hurt yourself in one of the ways listed in the earlier questions?

- ☐ Less than 1 week ago
 - ☐ Between 1 week and 1 month ago
 - ☐ Between 1 and 3 months ago
 - ☐ Between 3 and 6 months ago
 - ☐ Between 6 months and 1 year ago
 - ☐ Between 1 and 2 years ago
 - ☐ More than 2 years ago
-

How likely are you to intentionally hurt yourself again?

- ☐ Very likely
- ☐ Somewhat likely
- ☐ Not sure
- ☐ Somewhat unlikely
- ☐ Very unlikely



Approximately on how many total occasions have you intentionally hurt yourself?

- ☐ Only once
 - ☐ 2-3 times
 - ☐ 4-5 times
 - ☐ 6-10 times
 - ☐ 11-20 times
 - ☐ 21-50 times
 - ☐ More than 50 times
-

On what areas of your body do you tend to intentionally hurt yourself? (Please check all that apply).

- ☐ Wrists
 - ☐ Hands
 - ☐ Arms
 - ☐ Fingers
 - ☐ Calves or ankles
 - ☐ Thighs
 - ☐ Stomach or chest
 - ☐ Back
 - ☐ Buttocks
 - ☐ Head
 - ☐ Feet
 - ☐ Face
 - ☐ Lips or tongue
 - ☐ Shoulders or neck
 - ☐ Breasts
 - ☐ Genitals or rectum
 - ☐ Other (Please specify)
-

Which of the following descriptions best describes your motivations for **first** intentionally hurting yourself? (Please check all that apply).

- ☐ A friend suggested I try it
- ☐ I read about it on the internet and decided to try it
- ☐ I saw it in a movie/ television or read about it in a book and decided to try it
- ☐ It seemed to work for other people I know
- ☐ It seemed to work for celebrities I have heard of
- ☐ I accidentally discovered it- I had never seen it or heard about it before
- ☐ It was part of a dare
- ☐ I did it because I had friends who did it and I wanted to fit in
- ☐ I wanted to shock or hurt someone
- ☐ I was upset and decided to try it
- ☐ I wanted someone to notice me and/ or my injuries
- ☐ It felt good
- ☐ I was angry at someone else
- ☐ I was angry with myself
- ☐ I was drunk or high
- ☐ I cannot remember
- ☐ Other (please specify)



Have you ever intentionally hurt yourself so badly that you **should** have been seen by a medical professional (even if you were not)?

- ☐ Yes
- ☐ No



Have you ever intentionally hurt yourself more **severely** than you expected?

- ☐ Yes
☐ No
-

How many times have you intentionally hurt yourself more severely than you expected?

- ☐ 1
☐ 2-3
☐ 4-5
☐ More than 5
-

On what area(s) of your body have you intentionally hurt yourself more severely than you expected?
(Please check all that apply)

- ☐ Wrists
☐ Hands
☐ Arms
☐ Fingers
☐ Calves or ankles
☐ Thighs
☐ Stomach or chest
☐ Back
☐ Buttocks
☐ Head
☐ Feet
☐ Face
☐ Lips or tongue
☐ Shoulders or neck
☐ Breasts
☐ Genitals or rectum
☐ Other (Please specify)

Were you under the influence of drugs or alcohol in any instance that you hurt yourself more severely than you expected?

- ☐ Yes
☐ No

How old were you when you **first** intentionally hurt yourself?

- ☐ 10 or younger
 - ☐ 11-15
 - ☐ 16-20
 - ☐ 21-25
 - ☐ 26-30
 - ☐ 31-35
 - ☐ 36-40
 - ☐ 41-50
 - ☐ 50 or older
-

Have you ever sought medical treatment (not therapy) for any of the physical injuries you intentionally caused?

- ☐ Yes
 - ☐ No
-

On average, how often do you intentionally hurt yourself while you are in your most active phase(s)?

- ☐ Every day
 - ☐ 2-3 times a week
 - ☐ Once a week
 - ☐ 1-3 times a month
 - ☐ Once every few months
 - ☐ About once a year
 - ☐ Once every two years or more
-

During the period(s) in which you most actively hurt yourself, what was the longest interval of time during which you **did not** hurt yourself?

- ☐ Less than a week
- ☐ Less than a month
- ☐ 1-3 months
- ☐ 4-6 months
- ☐ 7-12 months
- ☐ More than a year

Which of the following are true for you? (Please check all that apply)

- ☐ I always intentionally hurt myself in private
- ☐ I have friends who intentionally hurt themselves
- ☐ I do not feel much physical pain when I intentionally hurt myself
- ☐ I sometimes intentionally hurt myself in the presence of others
- ☐ I sometimes let other people intentionally hurt me physically
- ☐ I have a regular routine I follow when I intentionally hurt myself
- ☐ I have a particular place/ room I prefer to be in when I intentionally hurt myself
- ☐ I tend to go through periods in which I intentionally hurt myself, then periods in which I do not, and this pattern repeats
- ☐ None of the above

I have had to fight the urge to start intentionally hurting myself again	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have the urge to intentionally hurt myself it is easy to control it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The fact that I intentionally hurt myself is a problem in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have no desire to stop intentionally hurting myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The fact that I intentionally hurt myself interferes with: (Please check all that apply)

- ☐ Relationships which are important to me
- ☐ My ability to complete study or work obligations
- ☐ My ability to take care of myself (eat right, exercise, etc.)
- ☐ My ability to engage in hobbies or things that I like to do
- ☐ My self-worth/self-esteem
- ☐ The clothing I wear
- ☐ It does not interfere with my life in any way
- ☐ Other (Please specify)

Which of the following statements is most applicable to your current situation?

- ☐ Someone knows that I intentionally hurt myself and has had a conversation with me about it.
- ☐ One or more people KNOW OR SUSPECT that I intentionally hurt myself but has not had a conversation with me about it
- ☐ No one knows that I intentionally hurt myself

Who knows about it and has talked with you about it? (Please check all that apply)

- ☐ Parent or custodial guardian
- ☐ Sibling
- ☐ Friend
- ☐ Significant Other (Boyfriend, girlfriend, or spouse or partner)
- ☐ Other relative
- ☐ Teacher
- ☐ Coach
- ☐ Therapist
- ☐ Physician
- ☐ Religious or spiritual leader (e.g., priest, pastor, kaumatua)
- ☐ Health care provider
- ☐ Other (please specify)

Who knows / suspects about it and has not talked with you about it (Please check all that apply)

- ☐ Parent or custodial guardian
- ☐ Sibling
- ☐ Friend
- ☐ Significant other (boyfriend, girlfriend, or spouse/partner)
- ☐ Other relative
- ☐ Teacher
- ☐ Coach
- ☐ Therapist
- ☐ Physician
- ☐ Religious or spiritual leader (e.g., priest, pastor, kaumatua)
- ☐ Health care provider
- ☐ Other (please specify)

Do you think you will intentionally hurt yourself again?

- ☐ Yes
- ☐ No

Looking back, how has your experience with intentionally hurting yourself impacted your life, both positively and negatively? (Please indicate all that apply)

- ☐ It was a working emotional coping strategy
- ☐ I still cannot talk about it and sometimes even thinking about it is difficult
- ☐ It prevented me from attempting suicide
- ☐ The lasting marks/scars are constant reminders of a bad / rough time in my life
- ☐ I am now able to help others who intentionally hurt themselves
- ☐ In thinking / discussing my experience around intentionally hurting myself, I have learned a lot about myself and because of it have mentally / emotionally grown
- ☐ My scars are my battle wounds- I made it through
- ☐ It pushed me further away from people; this is still a problem
- ☐ Discussion of my experience around intentionally hurting myself has helped me grow closer to the people I care about
- ☐ The remaining marks/ scars are a source of embarrassment for me
- ☐ It really did not impact my life much at all
- ☐ Other (please specify)

If you have stopped altogether (you are confident that you will **not** intentionally hurt yourself again) please describe why you stopped and what specifically helped you to stop.

What do you think is important for people who want to understand and help those who intentionally hurt themselves to know?

Were there long periods of time while you were intentionally hurting yourself that you felt:

	Yes	No	I do not know
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restless or fidgety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So depressed that nothing could cheer you up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That everything was an effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worthless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How old were you the **last** time you intentionally hurt yourself?

- ☐ 10 or younger
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-50
- ☐ 50 or older

The term "self-injury" is often used to describe behaviours in which someone intentionally hurts him or herself. Do you think of yourself as a self-injurer?

- ☐ Yes
- ☐ No

Did you think of yourself as a self-injurer before responding to this survey?

- ☐ Yes
- ☐ No

We have now reached the end of the survey. The remaining screens will not be connected to the questions above, but provide space to request course marks or a summary of the research, enter the draw, and information on support services. That is, the survey data will be collected and stored separately from your survey answers, which will remain anonymous.

If you would like a summary of the findings of this research please enter your email address into the box below

If you would like to go into the draw to win one of two warehouse vouchers, please enter your name and email address into the box below. (Note that you cannot also receive a bonus course mark).

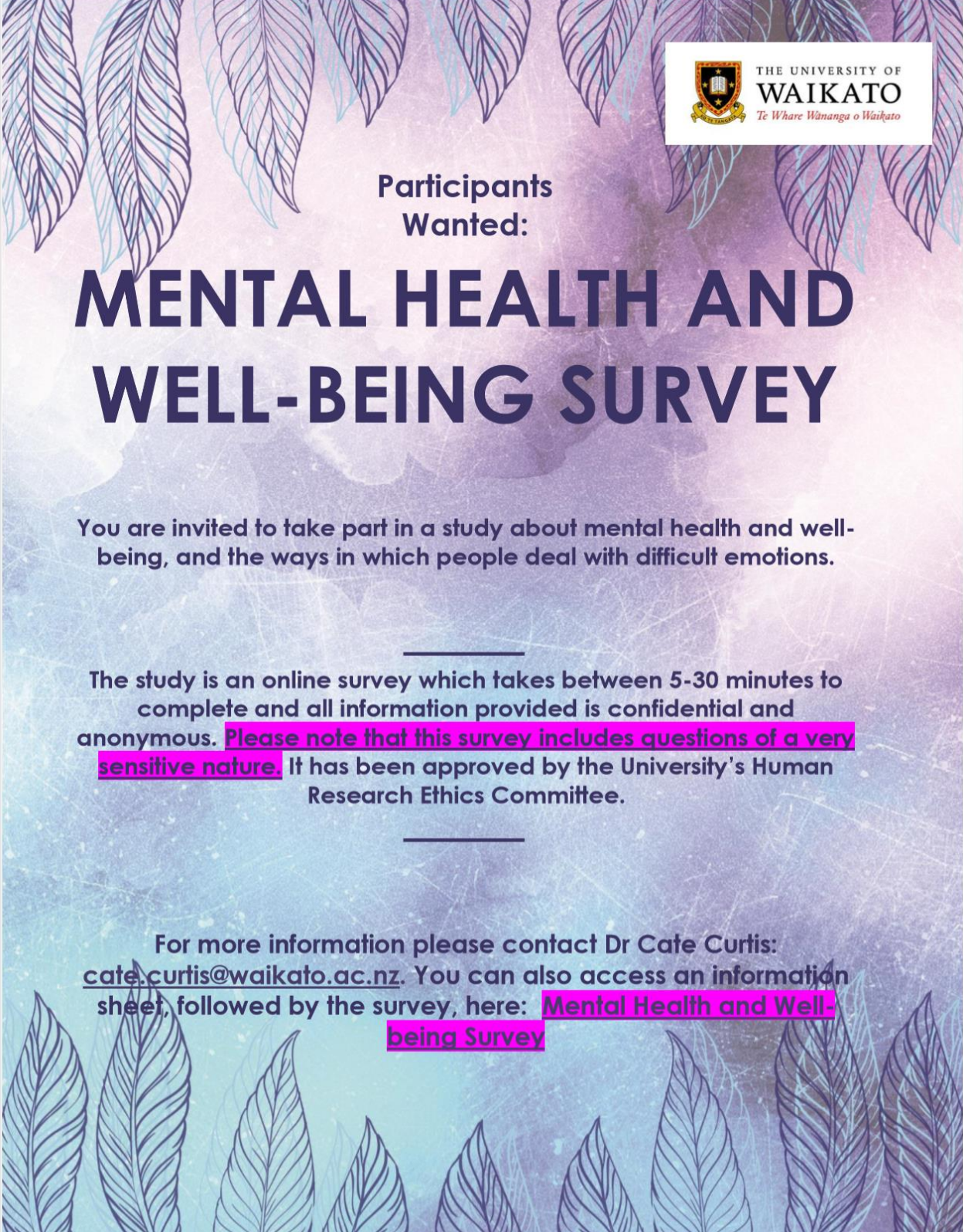
The voucher draw will be made by administrators in Psychology in October. The winner will be contacted by email, but cannot be announced publicly, in order to protect participant identities. Any inquiries can be directed to the administrators in Psychology: **psych@waikato.ac.nz**

The survey is now finished- thanks very much for participating; we really appreciate it. If you have any questions, please email: **cate.curtis@waikato.ac.nz**. You can also make any additional comments in the box below.

By pressing the button below the next screen will provide some information about support services, in case completing this survey has brought up issues for you. We understand that this survey asks questions about topics that may be difficult to think about. We think it is sensible to remind you that there are a number of services that you can access for support if necessary.

Appendix B

Participant Recruitment Flyer



The flyer features a background of stylized, overlapping leaves in shades of purple and blue. At the top right is the University of Waikato logo, which includes a crest and the text "THE UNIVERSITY OF WAIKATO" and "Te Whare Wānanga o Wāikato".

Participants
Wanted:

MENTAL HEALTH AND WELL-BEING SURVEY

You are invited to take part in a study about mental health and well-being, and the ways in which people deal with difficult emotions.

The study is an online survey which takes between 5-30 minutes to complete and all information provided is confidential and anonymous. **Please note that this survey includes questions of a very sensitive nature.** It has been approved by the University's Human Research Ethics Committee.

For more information please contact Dr Cate Curtis: cate.curtis@waikato.ac.nz. You can also access an information sheet, followed by the survey, here: **Mental Health and Well-being Survey**

Appendix C

Initial recruitment email

Kia ora

I am a lecturer in psychology at the University of Waikato. I am looking for New Zealand domestic university students, university staff and community members to take part in an online anonymous survey. The survey will take around 10-20 minutes to complete and will be asking questions about mental health. This survey includes questions about self-harm, alcohol use, stress, and depression; some of these are of a sensitive nature.

By contributing your time to take part in this survey you will be helping to add to the small but growing body of research about stress, distress and self-harm within New Zealand. You will have the option to go into the draw to win one of two \$50 warehouse vouchers. Some students might be able to earn course marks instead, if they are enrolled in relevant psychology papers.

For more information please email me at: cate.curtis@waikato.ac.nz

Ngā mihi



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Dr Cate Curtis

Senior Lecturer | School of Psychology

Associate Dean (Academic) | Division of Arts, Law, Psychology, & Social Sciences

University of Waikato

Private Bag 3105 | Hamilton 3240 | New Zealand

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Appendix D

Follow up Recruitment Email

Kia Ora

My name is Cate Curtis, I am a lecturer at the University of Waikato. It's been a week or two since my first email inviting you to participate in the anonymous mental health survey I am running. I wanted to follow up on that initial email with a short note:

The survey will take around 10-20 minutes to complete and will be asking questions about mental health including questions about alcohol use, self-harm, stress and depression.

By contributing your time to take part in this survey you will be helping to add to the growing research surrounding stress, distress and self-harm within the context of New Zealand. You will have the option to go into the draw to win one of two \$50 warehouse vouchers. Some students might be able to earn course marks instead, if they are enrolled in relevant psychology papers.

For more information please email me at: cate.curtis@waikato.ac.nz. Please headline the email as 'Research additional information'

Ngā mihi



THE UNIVERSITY OF
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Te Whare Wānanga o Waikato

Dr Cate Curtis

Senior Lecturer | School of Psychology

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Appendix E

Information Sheet for the Mental Health and Well-being Survey

Information Sheet for the Mental Health and Well-being Survey

Background Information

You are invited to participate in a study aimed at assessing student's and community members mental health and well-being. The study is intended to shed light on mental health issues students, and community members face and to better understand how mental-health services may be improved to help better meet student and community member needs.

Procedures

Participation in this study requires responding to online survey questions. The length of your participation in this survey is dependent on how you respond to some questions. On average, it will take you about 15 minutes to complete this survey, depending on how you answer some questions.

Voluntary Nature of Participation

Your decision whether or not to participate in this study will not affect your current or future relations with University of Waikato or the researchers involved in this study. If you decide to participate, you are free to withdraw at any time without affecting those relationships. You may do this by closing your web browser at any time. In addition, you may choose to not answer a specific question or questions (with the exception of your age and gender) and still continue with the survey.

Risks and Benefits

This survey addresses a number of mental health topics that may be difficult to think about; some of these are of a sensitive nature. Please keep in mind you may choose to not answer a question or questions and may stop your participation at any time by simply closing your web browser. In addition, attached to each invitation email and at the beginning and completion of your participation in this online survey, a list of names and contact information for people who can provide you with help and information about any mental health concerns you may have will be provided. There are no direct personal benefits to participating in this study. However, your involvement will enhance general understanding of the mental health and well-being issues people



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|

face.

Incentive to Complete the Survey

As an incentive to complete the survey, participants may elect to enter a draw to win one of two \$50 warehouse vouchers. If you wish to enter this draw simply enter your first name and a contact telephone number or email address into the Prize Draw page at the end of the survey. Some university students may choose to earn 1% course marks instead, if they are enrolled in a relevant psychology paper. If so, you would need to indicate which paper you want the mark for, and give your ID number and name.

Whether you prefer to enter the draw, or get the 1%, your name will be separated from the survey data when we download the final results; that is, your survey answers will be kept anonymous.

Final Outcomes

Once we have closed the survey and analysed results the findings will be written up. They may be written into academic articles, conference presentations or used for a graduate student thesis project. A summary of the findings will be made available upon request. You can indicate if you would like this summary by entering your email address and ticking 'yes' to a summary of the findings at the end of the survey.

Confidentiality

It is up to you whether you give us any identifying information; if you prefer not to, you are still very welcome to complete the survey. There are three reasons why you might choose to give us your contact information:

1. To be entered into the prize draw. We would use your name and telephone number or email address only to tell you if you have won a prize.
2. To gain a mark to be credited towards a relevant psychology paper. Students in some psychology papers are able to have 1% credited; these include PSYCH101, PSYCH307, PSYCH314, PSYCH319 and PSYCH337. Please note that you cannot enter the draw *and* receive a mark, only one or the other. If you decide not to take part, you can earn the 1% by completing a text-based research exercise. Please make contact to find out more.
3. To request a summary of the findings.

Unless you choose to give us this information we will have no idea which of the many completed surveys we receive is yours.

The survey is being hosted by Qualtrics, a professional online survey platform. Although it is theoretically possible that a determined "hacker" may enter the survey database, this is extremely unlikely. The data will be stored on a secure server, and access to the survey data is password-protected. Only the researchers will have access to your responses. Once the study is complete, the collated data will exist only on the Principal Investigator's computer (Dr Cate Curtis).

Contacts and Questions

Please contact Dr Cate Curtis at cate.curtis@waikato.ac.nz if you have any questions or concerns related to this study.

This research project has been approved by the Human Research Ethics Committee [contact and approval information to be added when approved].

Thank you for considering participation in this survey.

Appendix F

IPRP Debrief



Dr Cate Curtis

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Charlotte Robertson

Masters Student

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Thank you for participating in this research on mental health and well-being.

This study asked you to answer a series of questions about a variety of mental health issues, including peer and family relationships, depression, anxiety, self-injury, and receiving help for mental unwellness. The primary purpose of this Masters research is to shed light on both social and psychological factors relating to individuals who have engaged in self-harm, and those who have not engaged in self-harm. This research further seeks to understand better what mental health issues University students, and the community face and to see how services may be improved to meet individual's needs.

This study is a replication study of Dr Curtis and Dr Fitzgerald 2017 investigation of mental health and self-harm among student populations. There is stark research in Aotearoa New Zealand in the area of self-harm among populations older than 18. This research seeks to meet some of the need for more information in this area.

International studies suggest that individuals who have engaged in self-harm are experiencing some form of psychological distress, and often in relation to symptoms of depression, anxiety or other mental illnesses. We hypothesise, therefore, this may be the case for individuals who engage in self-harm, and who have participated in this study. The nature of this research, however, is largely explorative.

International data shows that those who engage in self-harm are at higher risk of eventually dying by suicide. It is this factor which is particularly pertinent in Aotearoa New Zealand, where we have a high suicide rate amongst our adolescents and young adults.

If you have any further questions regarding this research, please contact Dr Cate Curtis or Charlotte Robertson with the emails above. Thanks again for your participation.

References

- Fitzgerald, J., & Curtis, C. (2017). Non-suicidal self-injury in a New Zealand student population: Demographic and self-harm characteristics.
- Hawton, K., Zahl, D., & Weatherall, R. (2003). Suicide following deliberate self-harm: long-term follow-up of patients who presented to a general hospital. *The British Journal of Psychiatry*, 182(6), 537-542.
- Moran, P., Coffey, C., Romaniuk, H., Olsson, C., Borschmann, R., Carlin, J. B., & Patton, G. C. (2012). The natural history of self-harm from adolescence to young adulthood: a population-based cohort study. *The Lancet*, 379(9812), 236-243.

Appendix G

Resource Sheet Example



RESOURCE SHEET

FOR THE MENTAL HEALTH AND WELLBEING SURVEY

We understand that this survey asks questions about topics that may be difficult to think about. There are a number of services that you can access for support if necessary. Please see some of these services below.



Adult Mental Health Services

Below is a list of some of the services available in New Zealand that offer support, information and help. All services are available 24 hours a day, seven days a week unless otherwise specified.

Free call or text **1737** any time for support from a trained counsellor.

Health Line: **0800 611 116**
 Samaritans: **0800 726 666**
<http://www.mentalhealth.org.nz/get-help/in-crisis/helplines/>

Emergency Department at the Hospital

The Emergency Department is the “front door” of Hospital where urgent cases can come either by ambulance or present themselves for assessment and treatment. Priority is given to those who have a serious problem. The Emergency Department is open 24 hours a day, 7 days a week.

Or, **Phone 111 in an emergency.**

Lifeline Aotearoa

New Zealand’s telephone counselling service provides 24 hours a day, 7 days a week counselling and support:
[Lifeline 24/7: 0800 543 354](tel:0800543354) or text **HELP** to **4357**
[TAUTOKO Suicide Crisis Line 0508 828 865](tel:0508828865)
www.lifeline.org.nz

Depression, Anxiety, Distress Helplines New Zealand

New Zealand free phone helplines to talk to a trained counsellor, available 24 hours a day, 7 days a week:
Depression Helpline: 0800 111 757 or TEXT 4202
Anxiety Helpline: 0800ANXIETY (0800 269 4389)
The Lowdown: Free text 5626
<http://depression.org.nz>